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## **CARIM-INDIA – DEVELOPING A KNOWLEDGE BASE FOR POLICYMAKING ON INDIA-EU MIGRATION**

Co-financed by the European Union

### *Attracting Highly Skilled Migrants : US Experience and Lessons for the EU*

**Philip Martin**

CARIM-India Research Report 2012/01



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**CARIM-India**  
**Developing a knowledge base for policymaking on India-EU migration**

**Research Report**  
**Background Paper**  
**CARIM-India RR2012/01**

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US Experience and Lessons for the EU**

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## **CARIM-India – Developing a knowledge base for policymaking on India-EU migration**

This project is co-financed by the European Union and carried out by the EUI in partnership with the Indian Council of Overseas Employment, (ICOE), the Indian Institute of Management Bangalore Association, (IIMB), and Maastricht University (Faculty of Law).

The proposed action is aimed at consolidating a constructive dialogue between the EU and India on migration covering all migration-related aspects. The objectives of the proposed action are aimed at:

- Assembling high-level Indian-EU expertise in major disciplines that deal with migration (demography, economics, law, sociology and politics) with a view to building up migration studies in India. This is an inherently international exercise in which experts will use standardised concepts and instruments that allow for aggregation and comparison. These experts will belong to all major disciplines that deal with migration, ranging from demography to law and from economics to sociology and political science.
- Providing the Government of India as well as the European Union, its Member States, the academia and civil society, with:
  1. Reliable, updated and comparative information on migration
  2. In-depth analyses on India-EU highly-skilled and circular migration, but also on low-skilled and irregular migration.
- Making research serve action by connecting experts with both policy-makers and the wider public through respectively policy-oriented research, training courses, and outreach programmes.

These three objectives will be pursued with a view to developing a knowledge base addressed to policy-makers and migration stakeholders in both the EU and India.

Results of the above activities are made available for public consultation through the website of the project: <http://www.india-eu-migration.eu/>

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## **Abstract**

This paper examines the opportunities and challenges involved in attracting highly skilled Indian migrants to EU countries by examining US policies to attract highly skilled Indian and other migrants. The paper also outlines the policies regulating the entry of high-skilled workers into Germany and the UK. These policies have changed recently, making assessment difficult.

The paper has four sections. The first reviews definitions of and data on the number and distribution of highly skilled workers. Section two summarizes US policies to admit highly skilled foreigners as immigrants and temporary visitors, emphasizing that many of those who wind up as highly skilled US immigrants enter as students or guest workers and become settler immigrants after being sponsored by a US employer or marrying a US citizen or immigrant. Section three outlines the admissions channels open to highly skilled Indians and other non-EU foreigners in Germany and the UK, while section four provides conclusions and recommendations.

## Highly Skilled Workers and Migration Policies

### Definitions: Education or Job

Highly skilled persons are usually defined by education or occupation, that is, by their human capital and/or by their current jobs. The most common definition defines skilled persons as those 25 and older who have tertiary education, that is, at least two years schooling beyond secondary school. This means that some definitions require highly skilled persons to have at least a first university degree, while others would accept one or two years of post-secondary schooling as sufficient to be considered highly skilled.

Barro and Lee (2000, p24) estimated that 109 countries with about two-thirds of the 3.3 billion people 25 and older in 2000 had an average 6.7 years of schooling.<sup>1</sup> A quarter of these adults had no schooling, 33 percent completed primary school, 28 percent completed secondary school, and 14 percent had some higher education, but not necessarily a university degree.

The alternative to an individual's human capital is to define highly skilled by occupation, that is, to consider all persons in particular occupations to be highly skilled even if they do not have tertiary education or a university degree. The OECD's Canberra Manual on Human Resources in Science and Technology (HRST), for example, defines HRST workers by whether they completed education at the third level in a S&T field of study **or** whether are employed in an S&T occupation where such an education is normally required. This means that the Canberra Manual would define the late Steve Jobs of Apple and Bill Gates of Microsoft as HRST workers even though neither finished college. Many EU countries have adopted this OECD recommended definition of HRST, while the ILO and many other organizations use the International Standard Classification of Occupations ([www.ilo.org/public/english/bureau/stat/isco](http://www.ilo.org/public/english/bureau/stat/isco)).

The fact that the highly skilled workers can be defined by their education or by their occupation or job makes it hard to develop an accurate estimate of how many highly skilled workers there are in a particular country. In the US, for example, there were 5 million to 23 million science and engineering workers in 2006,<sup>2</sup> or 4 to 15 percent of the 144 million employed workers.<sup>3</sup> Arrayed from fewest to most, one can start with those employed in S&E occupations, add those in S&E related occupations, such as secondary school teachers of math and science and technicians in S&E related occupations and industries, and add those who use S&E knowledge in their work, including doctors and other health professionals. The most expansive count includes those with at least one degree in an S&E-related field, regardless of their current occupation.<sup>4</sup>

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<sup>1</sup> About 55 percent of the world's six billion people in 2000 were 25 and older.

<sup>2</sup> Including two million US residents with S&E degrees but not employed in 2006 are likely retired.

<sup>3</sup> The National Science Board, which generated these estimates in Chapter 3 of Science and Engineering Indicators 2008, favors using the broadest 21 million number, representing 17 million employed workers with S&E degrees and over four million with a degree in a related field such as health or technology.

<sup>4</sup> According to NSF, there were about employed 19 million US residents with at least S&E or related degree in 2006, including five million persons employed in S&E occupations, 5.2 million in S&R-related occupations, and almost nine million in other occupations. National Science Foundation. 2008. Unemployment Rate of U.S. Scientists and Engineers Drops to Record Low 2.5% in 2006. NSF 08-235. April. [www.nsf.gov/statistics/infbrief/nsf08305](http://www.nsf.gov/statistics/infbrief/nsf08305)

**Table 1. US S&E Workforce, 2006**

<b>Occupation</b>	<b>All</b>	<b>BS or more</b>
(1) Employment in S&E	5	5
(2) Employment in S&E	4.3	5.8
<b>Education</b>		
One S&E degree	16.6	
Highest degree S&E	12.4	
Job in S&E	2.6	

Source: Table 3-2. National Science Board, Science and Engineering Indicators, 2010

(1) from BLS OES and NSF

(2) from Census ACS

[www.nsf.gov/statistics/seind10/?org=NSB](http://www.nsf.gov/statistics/seind10/?org=NSB)

Defining highly skilled or S&E by current occupation is problematic, since the workers employed in any particular occupation have a range of degrees (Hecker, 2005). For example, among the 151 million US workers in 2008, a fifth had a Bachelor's degree and an eighth a Master's, PhD, JD, or MD, that is, a third of US workers had at least a college education. About 30 percent of US workers had some college but not a degree, including almost 10 percent who had two-year associate degrees, while 27 percent had only a secondary or high-school diploma and 10 percent did not complete high school. Among computer programmers, more had less than a Bachelor's degree, 30 percent, than an advanced degree, 20 percent. Among civil engineers, the mode was a Bachelor's degree, but a sixth had less than a college degree. Half of biochemists and biophysicists, and three-fourths of economists, had more than a Bachelor's degree.

**Table 2. Education and Training: Selected US Occupations, 2008**

	<b>HS or less</b>	<b>Some Col</b>	<b>BA/BS</b>	<b>Higher degree</b>
All Occupations	37	30	21	12
Chief executives	14	23	39	25
Legislators	14	23	39	25
Farmers	54	27	16	4
Computer programmers	6	24	50	20
Civil engineers	4	12	56	28
Biochemists/biophysicsts	1	6	43	50
Economists	1	1	23	75

Source: BLS Table 1.11 Employment Projections, 2008-2018

<http://www.bls.gov/emp/tables.htm>

There are no generally accepted national or international definitions of highly skilled, and the fact that many definitions accept a person's level of education or his/her current occupation makes it hard to know how many highly skilled workers there are and how many highly skilled workers migrate over national borders. Migration policies and regulations include definitions, which often specify a



level of education and work experience and sometimes a minimum salary and other requirements, but such definitions may be ad hoc.<sup>5</sup>

Even with agreement on the level of education, experience, salary etc required to make a person “highly skilled,” questions would remain. For example, the quality of education varies between institutions, so that simply having an engineering degree may not make a person employable in the eyes of some employers, depending on the institution that granted the degree. Many stories cite large numbers of engineers graduating each year from institutions in China and India, but fewer that note that only a small share, typically less than 20 percent, would be hired by a multinational.

### **Migration Policies: Supply or Demand**

There are two broad ways that migration policies can select highly skilled workers, supply and demand (Martin, 2011). Supply-based migration policies are sometimes used to allocate immigrant visas to foreigners with human capital attributes that are believed to assure economic success and social integration. Under the point-based selection systems of Australia, Canada, and New Zealand, foreigners are awarded points for education, youth, and knowledge of the local language, with additional points sometimes available for having a local job offer, work experience and/or relatives in the country. Foreigners who achieve the most or sufficient points are awarded immigrant visas.

By contrast, the US has a demand-based immigrant selection system for highly skilled workers (Martin, 2006). Employers begin the process of making tentative job offers to foreigners and then seeking government permission to hire them as guest workers or immigrants. Under the US H-1B program, the process of obtaining a guest worker visa is simple, which helps to explain why employers often use up all available visas. Under the certification process required to obtain an immigrant visa, US employers must advertise the job that will be filled by a foreigner to show that local workers are not available and show that US applicants are not qualified before they are certified to employ the foreigner and the foreigner receives an immigrant visa.<sup>6</sup> As an immigrant, the foreigner is free to work in almost any private sector job, so he/she does not have to work for the employer who sponsored him/her. Indeed, demand-based immigrant visas are often given to temporary foreign workers as a “reward” for their faithful service.

There are advantages and disadvantages of each system. Supply-based or human capital selection systems rely on objective measures of individuals to allocate limited immigrant visas. However, they cannot prevent brain waste, as when foreigner trained as a doctor or engineer in one country works as a taxi driver in another. Demand-based systems, on the other hand, assure foreigners jobs, but they often find it hard to prevent employment-based immigration from becoming family unification, as immigrants with businesses sponsor their relatives for admission as workers or as human resource managers in established firms favor the hiring of nationals from their countries of origin.

Supply- and demand-based immigrant selection systems can converge if supply-based systems grant more points for work experience and a job offer, while demand-based systems often make it

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<sup>5</sup> For example, the US allows all foreign student graduates of US universities to remain in the US 12 months after graduation for “optional practical training,” that is, paid work with a US employer. About 70,000 foreign graduates were participating in OPT in 2008, including a third with S&E degrees, when DHS allowed foreign graduates earning S&E degrees from US universities to remain 29 months rather than 12 months after graduation, in part because of the 65,000 a year cap on H-1B visas that made such visas hard for US employers to obtain for some of the foreign S&E graduates they wanted to hire. The regulation implementing this extension of OPT defined S&E degrees in an ad hoc way ([www.dhs.gov/xnews/releases/pr\\_1207334008610.shtml](http://www.dhs.gov/xnews/releases/pr_1207334008610.shtml)).

<sup>6</sup> As an immigrant, the foreigner is free to work in almost any private sector job, so he/she does not have to work for the employer who sponsored him/her. Indeed, demand-based immigrant visas are often given to temporary foreign workers as a “reward” for their faithful service. The irony is that the immigrant visa is given to the foreigner because, the employer asserts, US workers are not available. However, once the foreigner receives an immigrant visas, he/she is free to work in any US job that does not require US citizenship, and may leave the US employer who sponsored him/her.

easiest for employers to hire foreigners with at least college degrees. Such convergence is evident between Canada and the US. Canada adds points to individual scores for work experience in the country, while the US makes it easiest for employers to obtain visas for foreigners who have at least a college degree. However, in both supply and demand immigrant selection systems, many immigrants arrive as temporary workers and later “earn” an immigrant status, that is, the immigrants are already in the country but in a visitor status, not sought by employers in their country of origin. The exception to this adjust-status practice is network hiring from particular foreign universities or workers sent from one branch of a multinational to another via intra-company transfers.

Almost all temporary worker selection systems depend on employers requesting particular workers, raising the question of how employers identify desired skilled foreigners. Classic immigration countries tend to have large numbers of foreigners present as students, exchange visitors, and in other temporary statuses that allow at least part time work, permitting foreigners to gain work experience and move from visitor to guest worker or immigrant status. The graduate programs of US universities include large numbers of foreigners in science and engineering programs who obtain advanced degrees because they want such degrees and/or because they are waiting for a job offer from a US employer, that is, if the foreigner can get a US job offer with a Bachelor’s degree, she does; if not, she pursues a Master’s and perhaps a PhD.

The presence of large numbers of temporary visitors and guest workers inside a country means that most highly skilled immigrants are inside the country when they receive immigrant visas. For example, over 90 percent of the highly skilled foreigners for whom US employers request immigrant visas are already in the US when immigrant visas are requested for them, suggesting that most employers hire foreigners as students or guest workers and later sponsor them for immigrant status. There are also large and growing flows of intra-company transfers, as when a multinational transfers skilled workers and managers between branches in various countries. In most cases, receiving-country migration policies expedite such transfers by not imposing economic needs tests that determine whether local workers are available and sometimes do not establish minimum salary levels.

The growing movement of highly skilled workers over borders, often for short periods, calls into question the assertion of researchers such as Varna (2007), who asserts that scientific knowledge increasingly flows over national borders without migration because technology allows for the sharing of information in real time. The problem with such assertions is that knowledge in many cases is developed in face-to-face interactions rather than via the sharing of data and publications, even in real time.

## **Highly Skilled Migrants in the US**

### **Immigration**

There are three major types of foreign-born residents of the United States: front-door immigrants, side-door temporary visitors, and back-door unauthorized foreigners. Immigrants are citizens of other countries who receive visas that allow them to settle in the US. Immigrant visas today resemble credit cards, but they used to be printed on green paper, explaining why immigrants are sometimes referred to as green card holders.

The four major categories of front-door immigrants are family unification, employment, refugees, and diversity immigrants. The largest category, family unification, requires US citizens and immigrants settled in the US to sponsor their relatives for immigrant visas. Table 3 shows that about 500,000 or almost half of all immigrant visas in recent years went to immediate relatives of US citizens, as when a US soldier abroad marries a local resident and wants to bring him or her into the US or a newly naturalized US citizen requests visas for family members. The second part of family unification is the immediate family members of US immigrants, their spouses and children, and more distant relatives of US citizens, such as their adult brothers and sisters; about 215,000 a year are

admitted. Immediate relatives of US citizens do not have to wait for immigrant visas, but families of immigrants and distant relatives of US citizens sometimes wait a decade or more for visas.

The second immigrant visa category provides visas to foreigners requested or sponsored by US employers. There are several subcategories of employment-based visas, including visas for foreigners with “extraordinary ability” in academia or the arts and visas for foreigners who invest at least \$500,000 in the US to create or preserve at least 10 US jobs.<sup>7</sup> There are more extraordinary ability and investor visas available than are requested, but this is not the case for the other employment-based visas, which require a US employer to satisfy an economic needs test and be certified by the US Department of Labor that no US workers are available to fill the particular job for which an immigrant visa is sought. In many cases, the foreigner is already filling the job, which makes the search for US workers fruitless and sometimes contentious, as when employers reject apparently qualified US workers who respond to required ads.

The third immigrant subcategory is for refugees and asylees. Refugees are persons outside their country of citizenship who fear persecution at home because of race, religion, nationality, membership in a particular social group, or political opinion. Many leave their countries and live in neighboring countries of Africa, Asia, and Latin America waiting for conditions at home to improve. The US resettles about 70,000 refugees a year in the US, two-thirds from Asia. Some people leave their countries and travel to the US and apply for asylum, that is, they ask to be recognized as refugees in the US because they would face persecution at home. About 50,000 foreigners a year request asylum in the US, and half are recognized as refugees, receiving immigrant visas that allow them to settle in the US.

The fourth subgroup includes diversity and other immigrants. For the past two decades, the US government has made 50,000 immigrant visas a year available to nationals of countries that sent fewer than 50,000 immigrants during the previous five years. About 15 million foreigners entered the lottery in 2010, half Bangladeshi. Bangladesh was not eligible to participate in 2011, and eight million foreigners applied for diversity immigrant visas, including 1.4 million Nigerians, 910,000 Ghanaians, and 850,000 Ukrainians. Lottery winners must have completed secondary school and pass a background check to receive immigrant visas.

Most immigrants are in the US when their immigration visas become available. In recent years, 60 percent of all foreigners, and 90 percent of foreigners receiving employment-based immigrant visas, were in the US when their visas became available. This adjustment-of-status method of immigration marks a significant change from 19<sup>th</sup> century immigration, when immigrants set off to begin anew in an unfamiliar place (although many returned to their countries of origin). Many immigrants-in-waiting are in the US with some type of temporary visitor visa or are unauthorized foreigners.

The largest single source of immigrants to the US is Mexico, which accounted for about 20 percent of immigrants in recent years. Countries that account for five to 10 percent of US immigrants include China, India, the Philippines and the Dominican Republic. California attracts about a quarter of US immigrants, followed by New York with 15 percent and Florida with 10 percent.

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<sup>7</sup> EB-5 investor visas are available to those who invest at least \$1 million and create or preserve at least 10 full-time US jobs or \$500,000 in areas with unemployment rates that are 1.5 times the US average. Most foreign investors invest \$500,000 via private and public agencies that recruit foreign investors to obtain funds for particular projects, that is, the foreigners generally do not actively manage their US investments. After two years and a check on the investment and jobs, foreign investors can convert probationary immigrant visas into regular immigrant visas.

**Table 3. Entries into and out of the US, FY04-09**

Category	2004	2005	2006	2007	2008	2009
<b>Legal Immigrants</b>	957,883	1,122,373	1,266,129	1,052,415	1,107,126	1,130,818
Immediate relatives of US Citizens	417,815	436,231	580,348	494,920	488,483	535,554
Other family-sponsored immigrants	214,355	212,970	222,229	194,900	227,761	211,859
Employment-based	155,330	246,878	159,081	162,176	166,511	144,034
Refugees and Asylees	78,351	150,677	216,454	136,125	166,392	177,368
Diversity and other immigrants	92,032	75,617	88,017	64,294	57,979	62,003
Estimated Emigration	308,000	312,000	316,000	320,000	324,000	328,000
<b>Legal Temporary Migrants</b>	30,781,330	32,003,435	33,667,328	37,149,651	39,381,925	36,231,554
Pleasure/Business	27,395,921	28,510,374	29,928,567	32,905,061	35,045,836	32,190,915
Foreign Students (F-1)	613,221	621,178	693,805	787,756	859,169	895,392
Temporary Foreign Workers	831,144	882,957	985,456	1,118,138	1,101,938	936,272
<b>Illegal Immigration: Apprehensions</b>	1,264,232	1,291,142	1,206,457	960,756	791,568	613,003
Removals or Deportations	240,665	246,431	280,974	319,382	358,886	393,289
Unauthorized Foreigners	572,000	572,000	572,000	572,000	-650,000	-650,000

Sources: DHS Immigration Statistics

Unauthorized Foreigners from Passel

The stock of unauthorized rose from 8.4 million in 2000 to 12.4 million in 2007

In 2010, there were an estimated 11.2 million unauthorized foreigners

### **Temporary Admissions: H-1B**

Over 35 million foreigners a year arrive as temporary visitors. The US has more than 25 types of visas for temporary visitors, from A-1 for ambassadors to F-1 for foreign students and H-visas for foreign workers. There are L-1 visas for intra-company transfers (workers employed by a multinational outside the US who are transferred to the firm's US operations), P-visas for foreign athletes and entertainers, and TN visas for Canadian and Mexican professionals admitted under the North American Free Trade Agreement.

Foreign students and guest workers often become side-door immigrants. Between 1990 and 2000, the number of foreign students in the US doubled to over 500,000 as economic growth in Asia made a US education more affordable. However, the fact that several of the September 11, 2001 terrorists who flew airplanes into the World Trade Center in New York City held student visas, including one who never showed up at the school that admitted him, led to new restrictions on students from some

countries, especially those studying sciences, and a new Student and Exchange Visitor Information System (SEVIS) to track foreign students while they are in the US; foreign students are assessed fees to cover the cost of SEVIS.

There was a drop in the number of foreign students in the US in 2005-06, but their number rose to a record 700,000 in 2009-10.<sup>8</sup> The leading countries of origin are China, India, and South Korea, (almost 45 percent of foreign students in the US are from these three countries), and the US universities with the most foreign students, more than 7,000 each, are the University of Southern California, the University of Illinois, and New York University. Almost 40 percent of foreign students in the US study science and engineering, while another 20 percent are business majors.

Most foreign students in the US are graduate students pursuing MS and PhD degrees. The fact that foreign students receive more than half of the MS and PhD degrees in many sciences and engineering has prompted a debate about why so few Americans are in these graduate programs. The National Science Board (2003) faulted math and science teaching in secondary school for the dominance of foreigners earning advanced S&E degrees, while other observers point to the fact that advanced degrees in engineering are not associated with higher salaries and that doctorates in science are often followed by lengthy low-paid post-doctoral apprenticeships. For these reasons, they say, Americans prefer business, law, and medicine to science and engineering (Teitelbam, 2003; Benderly, 2010).

The US eases the transition from study to work in several ways (Martin, Lowell, Martin, 2002). Foreign students may work part time while they study, and their employers are generally not required to undergo certification (conduct economic needs tests to ensure that US workers are unavailable). Foreign student graduates of US universities can be hired by employers as H-1B workers in a very easy attestation process or, if H-1B visas are not available, can go to work as under the Optional Practical Training (OPT) program. All foreign student graduates of US universities may remain in the US for 12 months after graduation in OPT status, and those with degrees in science and engineering fields may remain in the US up to 29 months in OPT status, giving them more time to find a US employer.

The major guest worker program for high-skilled workers is the H-1B program, which was included in the Immigration Act of 1990 to help employers deal with what were perceived to be temporary labor market mis-matches. During the 1980s, the US unemployment rate remained above five percent even as employers in fast-growing computer-related industries complained of labor shortages.

The US government had a two-fold response. First, it launched programs to improve the education and skills of US workers in computer-related fields in order to help US workers move from so-called sunset to sunrise industries (Weinstein, no date). Second, the H-1B program was created to give employers easy access to foreign workers to fill jobs that “require theoretical and practical application of highly specialized knowledge to perform fully.”

In 1990, about 20,000 such workers a year were admitted under the program that preceded the H-1B program, so the number of H-1B visas was capped at 65,000 a year to allow employers to quickly get the workers they need. The expectation was that the number of H-1B workers requested by US employers would initially be very high, and then would fall as US graduates entered the labor market. This did not happen. Instead, the number of H-1B visas rose slowly, reaching the 65,000 cap for the first time in FY97.

The US unemployment rate dipped below five percent in 1997 and remained below five percent until 2002. The spread of computers and rising stock prices ushered in a new knowledge-based economy (knowledge becomes a product) that some thought would expand indefinitely, ending recessions and associated spikes in unemployment. Some of the IT employers at the heart of the computer revolution argued that a combination of a knowledge-based economy and the feared Y-2k

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<sup>8</sup> IIE Open Doors 2010. [www.iie.org/en/Research-and-Publications/Open-Doors](http://www.iie.org/en/Research-and-Publications/Open-Doors) About 260,000 US students were enrolled in colleges and universities abroad in 2009-10.

problem (computers malfunctioning as the date changed from 1999 to 2000) justified raising the cap on admissions of H-1B workers. They further argued that the presence of H-1B workers did not hurt similar US workers because there were more vacant IT jobs than jobless workers with IT skills. Not admitting foreigners with H-1B visas, they argued, could threaten the economy generally and computer-dependent businesses in particular.

IT-related employers pressured Congress to raise the cap on H-1B visas. Many employers called the foreigners for whom they were seeking H-1B visas the “best and brightest” of the global labor force and called for minimal barriers to their entry and employment. The Clinton White House in 1998 countered with a proposal that US employers who paid H-1B workers at least \$75,000 a year could have them enter under the regular H-1B easy attestation process, but employers of lower-paid H-1B workers would have to certify that they did not lay off US workers to make room for H-1B workers.<sup>9</sup>

Major tech firms such as Intel as well as so-called job shops that sent H-1B workers from one US firm to another opposed the \$75,000 minimum wage for H-1B workers. They persuaded Congress to limit the US worker recruitment requirement to H-1B dependent employers, those with at least 50 workers and at least 15 percent H-1B workers, and willful violators of H-1B regulations. The American Competitiveness and Work Force Improvement Act of 1998 raised the cap on H-1B visas from 65,000 a year to 115,000 in 1999 and 2000 and 107,500 in 2001 and, for the first time, required H-1B-dependent employers and willful violators of H-1B regulations to attempt to recruit US workers and not lay off US workers in order to hire H-1B foreigners.

Congress raised the cap on H-1B visas to 195,000 a year for FY01, FY02, and FY03 in the American Competitiveness in the Twenty-First Century Act of 2000. The employer-paid training fee was raised to \$1,000 per H-1B visa, and H-1B visas issued to foreigners employed by US universities and research institutions were exempted from the cap.<sup>10</sup> This second increase in the H-1B cap occurred in October 2000, just before a National Research Council committee released a report concluding that H-1B foreigners keep “wages from rising as fast as might be expected in a tight labor market.” Committee chair Alan Merten said: “We feel [the number of H-1Bs] is so large that we are totally dependent on it, and it depresses wages.” However, the committee did not recommend a particular annual quota for H-1B visas, saying that the number is a “political decision.”

The number of H-1B visas returned to the original 65,000 a year in FY04, after several influential studies appeared that questioned whether there was a shortage of S&E workers (Butz, 2003). Instead of trying to raise the H-1B cap at a time of high unemployment for IT-related workers (the unemployment rate for IT workers in 2004 was 5.7 percent, versus 5.5 percent for all US workers), employers won another exemption. Under the L-1 Visa and H-1B Visa Reform Act of 2004, an additional 20,000 H-1B visas a year were made available to foreigners who earned Masters or PhD degrees from US universities.

Employers requested all available H-1B visas in FY05, FY06, and FY07. DOL approved almost all employer requests within seconds via the internet, but DHS used a lottery to select foreigners for H-1B visas, that is, employers could submit only one application for each foreigner for whom they sought an H-1B visa, and could not rank the foreigners they requested.<sup>11</sup> The result was considerable frustration for employers and foreigners who had been offered jobs, but were unsure if they would receive H-1B

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<sup>9</sup> Patrick Thibodeau, “Elena’s Inbox details H-1B battle in Clinton White House,” *Computerworld*, July 2, 2010.

<sup>10</sup> Benderly (2010) says that lobbyists for the tech industry struck a deal with those of the research universities—the universities supported raising the cap on H-1B visas in exchange for winning the ability to hire as many H-1Bs as they wanted.

<sup>11</sup> For example, USCIS announced that it received 150,000 employer requests for the 65,000 H-1B visas on April 2, 2007, the first day it accepted applications for FY08. It took the 123,480 requests that it said satisfied basic requirements and selected the 65,000 recipients of H-1B visas by lottery. For FY07, the H-1B cap was reached by June 2006, that is, before FY07 began on October 1, 2006.

visas. Microsoft's Bill Gates, in an April 2005 discussion of improving US competitiveness, said: "I'd certainly get rid of the H-1B visa cap." Microsoft opened a research center in Canada, ostensibly because too few H-1B visas were available.

In recent years, the number of H-1B visas issued has ranged from 110,000 to over 150,000, with 85,000 issued under the two capped programs (65,000 and 20,000), and an unlimited number issued to foreigners requested by US universities and nonprofits. Indians play a special role in the H-1B program, accounting for half or more of the H-1B visas issued in recent years; the Indian share of H-1B visas was 54 percent in the peak year of FY07, when 154,000 H-1B visas were issued.

**Table 4. H-1B Visas Issued: China, India, Total, 2007-10**

fiscal year	China	India	Total	India Share
2007	10,761	83,464	154,063	54%
2008	9,141	72,517	129,464	56%
2009	9,223	55,886	110,367	51%
2010	11,242	58,664	117,409	50%

Source: DOS, [http://travel.state.gov/visa/statistics/nivstats/nivstats\\_4582.html](http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html)

The 2008-09 recession and criticism of the H-1B program prevented employers from winning another increase in the 65,000 a year cap (Lowell and Regrets, 2006; Lowell and Salzman, 2007). Instead, most employer H-1B reform efforts focused on countering the increasingly aggressive enforcement of H-1B regulations. For example, in January 2010 DHS issued a memo to clarify that US employers of H-1B workers must have an employer-employee relationship with them, restricting the ability of staffing firms to send H-1Bs from one US job to another to be supervised by someone from the firm where they were placed. Outsourcer Broadgate complained that this requirement threatened its business model and sued DHS in June 2010 but lost.

Critics of the H-1B program have consistently raised two major complaints: wage depression and lack of enforcement of worker protections (Matloff, 2003). Worker advocates allege that H-1B visa holders are often cheap substitutes for US workers, so that admitting H-1B workers distorts US labor markets because wages that are held down by the presence of H-1B foreigners deters US workers from embarking on careers in science and engineering to avoid competing with young foreigners who are tied to their US employer. The H-1B program allows US employers to specify very precisely the qualifications expected of new hires, avoiding the need to hire and retrain jobless or underemployed US workers with general skills.

Second, the employer-friendly nature of the H-1B program can lead to abuses of workers that are hard to detect and correct. The assumption in 1990 was that college-educated US (and foreign) workers could and would complain loudly about employer violations of regulations, minimizing the need for the certification and oversight procedures that are an integral component of the H-2A and H-2B programs that admit unskilled farm and nonfarm workers, respectively. For this reason, the Immigration Act of 1990 allows DOL to investigate employers of H-1B workers only after receiving complaints of potential violations. Most complaints about labor law violations come from aggrieved workers. However, since many H-1B visa-holders hope to be sponsored by their employers for immigrant visas, they rarely complain, giving DOL few opportunities to investigate.

Employers in 2011 continue to pressure Congress to "raise the H-1B cap." Cornell University President David Skorton testified recently that there are "not enough qualified or interested US students, especially in STEM fields (science, technology, engineering and math) and urged more immigrant visas for foreigners who earn STEM degrees from US universities. New York City Mayor

Michael Bloomberg said: "There is no such thing as too many engineers, scientists, or technological innovators," so the US should "give them [foreign student graduates of US universities] green cards when they finish their degrees."<sup>12</sup>

The US attracts the largest number of immigrants, foreign students, and highly skilled foreigners (Matthews, 2008). However, the programs that admit immigrants, foreign students, and highly skilled foreigners are controversial. There is general agreement that immigration is in the national interest, but far less agreement about the specifics of particular programs. For example, should the US have such a broad definition of family that a foreigner can arrive as a student for five years, spend six years as an H-1B worker to be sponsored for an immigrant visa, and then become a naturalized US citizen after five more years and sponsor his parents and 40-year old brothers and sisters for immigrant visas? Such a broad definition of family may make the US an attractive destination for families that select a bright member to study in the US, and justify high US tuition as part of a strategy of extended family unification.

Foreign student and foreign worker programs are also controversial. Some US universities are becoming dependent on the higher tuition paid by foreign students, and they sponsor studies that conclude the US reaps enormous economic benefits from the presence of foreign students, including lowering the cost of research in science labs that is funded by tax monies. On the other hand, critics allege that, without foreign graduate students, fields with waning US student interest such as agriculture would shrink, saving taxpayer funds on research that may primarily benefit those outside the US.

The foreign worker debates are more traditional, asking whether easy access to foreign workers, including foreign graduates of US universities, allows US employers to specify required skills precisely and to obtain better qualified foreigners to fill jobs for lower wages, as when job ads specify, Bachelor's required, Master's preferred. The salary for such a job is usually set at the Bachelor's level, but if the employer attracts a foreigner with a Master's degree, the result may be a Master's degree holder earning a Bachelor's-level salary.

### **Highly Skilled Migrants: EU Blue Card**

The EU's 27-member nations had 501 million residents in 2010; their population is projected to peak at 521 million in 2035. About 2.6 percent of EU residents are intra-EU migrants, such as Poles in the UK, and another four percent or 20 million are non-EU 27 nationals, such as Turks in Germany. The US, by contrast, has about 40 million foreign-born residents.

Two-thirds of EU population growth is due to immigration from outside the EU. The European Commission, the executive of the 27-member EU, has been proposing the admission of more immigrants to deal with Europe's shrinking labor force for the past decade. However, non-EU nationals have relatively low employment rates, lower than nationals and intra-EU migrants. For example, 83 percent of nationals of an EU member state with a high level of education were employed in 2010, compared with 77 percent of intra-EU migrants and 67 percent of non-EU migrants with a high level of education.

The Commission acknowledges high unemployment rates in some member countries. However, its 2010 annual report on migration said: "given both the seriousness of the skills mismatch in European labor markets as well as irreversible demographic developments, a well organized legal immigration and integration policy has a central role to play in ensuring the EU's long-term competitiveness and ultimately the future of its social model."<sup>13</sup>

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<sup>12</sup> Quoted in Labor, H-1B, J-1. 2011. Migration News. Volume 18 Number 4. October.  
[http://migration.ucdavis.edu/mn/more.php?id=3708\\_0\\_2\\_0](http://migration.ucdavis.edu/mn/more.php?id=3708_0_2_0)

<sup>13</sup> Some economists question such assertions, including Freeman (2005).



The Commission has proposed several policies to pry migration doors open in member states, including a directive that standardizes rules for the admission of non-EU students and encouragement of three-year Bachelor's degrees.<sup>14</sup> The Commission reported that over 200,000 third-country nationals entered the EU to study in 2009, including almost 53,600 in France, 32,600 in Italy, and 31,300 in Germany. However, it highlighted what it called “difficulties” faced by non-EU foreign students in a September 2011 report, such as not providing timely responses to applications for necessary visas and not providing reasons for visa refusals.<sup>15</sup>

The Commission, like the governments of most countries, wants to welcome more highly skilled foreigners to strengthen its knowledge-based economy, resulting in the Blue-Card Program. European Commission President Josa Manuel Barroso said: “with the European blue card, we send a clear signal. Highly skilled workers are welcome in the EU.”

Council Directive 2009/50/EC aims to attract highly qualified foreigners from non-EU countries by simplifying admission and work-and-residence procedures for foreigners with a university degree or at least five years experience who have a job offering at least 1.5 times the average gross annual salary in the EU member state admitting them (1.2 times in labor-short occupations).<sup>16</sup> Member states decide whether the employer or the foreigner submits the application for the EU Blue Card, which can be made valid from one to four years. Blue-Card holders can have their families join them within six months, and their spouses can receive worker permits.

After 18 months in their first EU country, Blue Card holders may move to another EU member state to take up highly qualified employment. The 24 EU member states bound by EU migration rules (not Denmark, Ireland and the UK) were supposed to enact national legislation to implement the Blue Card program by June 2011, but Malta, Italy and Portugal did not.

The Blue Card program was developed in 2007 by then-EU Commissioner for Justice, Freedom and Security, Franco Frattini, who asserted (wrongly), that 55 percent of immigrants to the US are highly qualified, versus five percent of immigrants to the EU. Frattini argued that the EU must develop a common migration policy to attract more highly skilled foreigners, and a Blue-card allowing freedom of movement within the EU would make the EU more attractive to highly skilled foreigners.

## Highly Skilled Migrants: Germany

Germany was a reluctant country of immigration for most of the past half century (Martin, 2012). The German government allowed employers to recruit low-skilled guest workers in the 1960s who were expected to rotate in and out of the country. However, many settled in Germany with their families, and today Turks and the children of other foreigners have high rates of unemployment and welfare dependency, prompting contentious debates over the best ways to assure their economic and socio-political integration.

Germany became an acknowledged country of immigration in 2005, and a new gap between migration policy goals and realities has appeared. German policy since 2005 welcomes highly skilled foreigners, but few have arrived. With the German labor force projected to shrink, the major migration issues in Germany are how to attract more highly skilled foreigners and how to integrate low-skilled foreigners and their children settled in Germany.

Germany's first attempt to attract more highly skilled foreigners was the green card program, which grew out of the failure of the SPD-Green coalition government elected in 1998 to enact a

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<sup>14</sup> Directive 2004/114/EC establishes common rules of admission for non EU nationals to an EU Member State for the purposes of studies, pupil exchange, unremunerated training or voluntary service.

<sup>15</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/1089&type=HTML>

<sup>16</sup> [http://europa.eu/legislation\\_summaries/internal\\_market/living\\_and\\_working\\_in\\_the\\_internal\\_market/l14573\\_en.htm](http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/l14573_en.htm)

comprehensive immigration program (Martin and Werner, 2000). The computer association BITKOM in 2000 argued that there were at least 75,000 unfilled IT jobs, and that too few students were graduating from German universities to fill these vacant positions and new ones being created during the IT boom.<sup>17</sup> BITKOM pointed to the tripling of the number of H-1B visas in the US to argue that Germany had to attract more highly skilled foreigners to retain a competitive economy.

The SPD-Green government launched the Green Card program in 2000 to highlight the benefits of skilled foreigners. it allowed German employers to recruit non-EU foreigners to fill computer-related jobs for five years if they were paid at least DM 100,000 (\$45,000) a year in Germany (this was later changed to E51,000 a year). Some members of the coalition government opposed the Green Card program. Labor Minister Walter Riester (SPD) said "We cannot allow a general international opening of the job market. We have over four million unemployed people, among them very qualified people in the information technology field." Riester noted that German employers could hire foreign scientists, and that 580 work permits were issued to foreign professors and similar professionals in 1998, after German employers convinced the labor department that German or EU workers were not available.<sup>18</sup>

The opposition CDU tried to block the Green Card program with the slogan "Kinder statt Inder" (children instead of Indians), arguing that Germans should have more children and train them to be computer programmers instead of recruiting Indian IT workers. This campaign failed, and about 16,000 Green Cards were issued to non-EU foreigners, including a quarter to Indians (Margin, 2003).

The Green Card program ended when Germany enacted its first-ever comprehensive immigration law effective January 1, 2005. Germany's Migration Law acknowledges that Germany is a country of immigration and puts no limits on the number of foreigners under 45 who invest at least E1 million (Euro 250,000 and five jobs since 2009) and create at least 10 jobs in Germany, as well as on scientists and professionals earning at least E86,400 a year (reduced to Euro 66,000 a year in 2009, and to be reduced to E48,000 in 2012). The law allowed foreign students graduating from German universities to stay in Germany for an additional year and, if they find a job, to receive a residence and work permit with few formalities.

However, few non-EU scientists and professionals arrived in Germany from outside the EU. Between 2005 and 2009, some 629 highly qualified non-EU foreigners were hired by German employers under Paragraph 19 of the 2005 Migration Law (158 in 2009), including almost 20 percent from the US and 17 percent from Russia. Over 80 percent of these highly qualified foreigners were young men in their thirties, and a fourth had gross incomes exceeding E105,000 a year, significantly above the minimum required annual salary. Most were already in Germany when they received Paragraph 19 work permits, over three-fourths in 2010.<sup>19</sup> However, far more German professionals left Germany than were admitted to replace them.

What explains the gap between Germany's welcome to highly skilled foreigners since 2005 and fewer than 1,000 admissions? There are several reasons, including the perceived ease of entering the US, Canada, Australia and other English-speaking countries, these countries generally more expansive

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<sup>17</sup> Germany: Green Cards? 2000. Migration News. April. Volume 7 Number 4.  
[http://migration.ucdavis.edu/mn/more.php?id=2068\\_0\\_4\\_0](http://migration.ucdavis.edu/mn/more.php?id=2068_0_4_0)

<sup>18</sup> Quoted in Germany: Green Cards? 2000. Migration News. April. Volume 7 Number 4.  
[http://migration.ucdavis.edu/mn/more.php?id=2068\\_0\\_4\\_0](http://migration.ucdavis.edu/mn/more.php?id=2068_0_4_0)

<sup>19</sup> [www.bamf.de/DE/Infothek/Statistiken/Wanderungsmonitor/wanderungsmonitor-node.html#doc2080456bodyText3](http://www.bamf.de/DE/Infothek/Statistiken/Wanderungsmonitor/wanderungsmonitor-node.html#doc2080456bodyText3). Data on the nationalities of those receiving work and residence permits under Paragraph 19 were not provided.

family unification policies,<sup>20</sup> fewer requirements on employers to obtain H-1B and similar visas in these countries,<sup>21</sup> and perhaps tax considerations.

Another reason may be difficulty having foreign-earned credentials recognized in Germany, prompting changes in 2011 aimed at speeding the recognition of credentials earned outside Germany. Germany has 350 regulated professions, and many of the 300,000 foreigners in Germany with foreign-earned qualifications cannot easily gain recognition from the guilds that often control entry to medicine, engineering, and other occupations. Under the 2011 changes, German professional organizations are to complete their assessments of foreigners seeking recognition of their foreign-earned credentials within three months.

## Highly Skilled Migrants: UK

Between 1997 and 2009, net migration to the UK was 2.2 million, an average 183,000 a year, the result of decisions taken by the Labor government elected in 1997 to use immigration to bolster economic growth. The number of migrants arriving in the UK was far larger than anticipated, especially the number of Poles and other so-called A8 nationals after the British government decided not to impose restrictions on their entry and employment.

In 2007, the Labor government tried to rationalize the immigration system by reducing the number of entry channels from 80 to five ([www.ukba.homeoffice.gov.uk/visas-immigration/working](http://www.ukba.homeoffice.gov.uk/visas-immigration/working)). Non-EU foreigners coming to work in the UK are divided into three groups: Tier 1 highly skilled, Tier 2 for skilled workers with a job offer from a UK employer, and Tier 3 low-skilled (suspended). Tier 4 is for students and Tier 5 is for other temporary workers, including working holidaymakers and athletes. These tiers are explained more fully below.

The five-tier admissions system began operating in 2008. Tier 1 eliminated the highly skilled migrants program (HSMP), which allowed foreigners selected under a point system to become immigrants after four years in the UK. Tier 1 highly skilled professionals such as researchers and managers can enter the UK with their families without a test of the labor market if they know English, have advanced degrees, and are financially stable.

There are three major subcategories within Tier 1: professionals such as doctors and lawyers, foreign graduates of UK universities who remain for post-study work, and investors and entrepreneurs. A points test governs admissions. For example, as introduced, Tier 1 foreigners had to earn at least 75 points under a scheme that gives, for instance, 50 points to those under 27 who have a PhD and 45 points for previous annual earnings of £40,000 or more.

Some 18,800 foreigners received Tier 1 work permits in 2009, including a large number of foreign students who completed degrees in the UK. However, after a November 2010 report found that three-fourths of the South Asians and Nigerians graduates of UK universities worked in low-skilled supermarket jobs, the government reduced the quota on Tier-1 post-study migrants to 1,000 for 2011.

Tier 2 admits skilled non-EU foreigners (with at least a secondary school education) who have UK job offers for up to three years, and Tier 2 foreigners are tied to the employer who sponsored their admission. Foreigners sponsored by British employers receive points for their education, English

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<sup>20</sup> For example, the US allows naturalized US citizens to sponsor for immediate admission children up to age 21 and parents. Naturalized US citizens may also sponsor married adult children and their families and adult brothers and sisters and their families.

<sup>21</sup> There is no minimum salary requirement for an H-1B visa in the US, only an employer obligation to pay the prevailing wage. DOL's computer program has on several occasions approved very low wages for foreigners with at least Bachelor's degrees.

language skills, and additional points if they are filling a job in a shortage occupation.<sup>22</sup> For example, non-EU foreigners must achieve at least 60 points if they are intra-company transfers, and 70 points if they are not employed by the firm in another country. Foreigners receive 10 points for a BA degree and 15 for a PhD, 20 points for a UK salary offer of L24,000 or more, and 10 points for passing an English-language test, and they must have "maintenance funds" of at least L800 plus L533 for each dependent. The most points, 30 for intra-company transfers and up to 50 for other skilled workers, are reserved for foreigners filling jobs on UK shortage lists (Martin, 2010).

In 2009, 36,400 non-EU foreigners arrived under Tier 2, and two-thirds of Tier 2 arrivals were intra-company transfers. Intra-company transfers (ICTs) are exempt from the cap if they earn more than L40,000 a year (allowances paid to ICTs can be counted toward the L40,000 minimum annual salary), and those paid between L24,000 and L40,000 can stay in the UK only one year.

The introduction of the five-tier selection system was accompanied by the creation of a Migration Advisory Committee to answer questions posed by the government. One task of the MAC is to determine whether employers need to hire foreigners in 353 occupations. The MAC uses both top-down and bottom-up indicators of labor shortage to decide whether a particular occupation should be placed on labor-shortage lists; it is easier to obtain sufficient points for occupations on the shortage list (Martin and Ruhs, 2011).

Tier 3 for low-skilled non-EU workers has been suspended since 2008, meaning the government believes that sufficient numbers of such workers are available in the UK and the EEA. Previously British employers could obtain low-skilled workers from outside the EEA via the Seasonal Agricultural Workers Scheme (SAWS) and the Sectors Based Scheme (SBS).

Tier four for foreign students imposes new responsibilities on UK educational institutions. Universities and colleges must obtain a £400 license to recruit international students and take responsibility for the foreign students they enroll. Once accepted by a UK college, foreign students must provide fingerprints and prove they have sufficient funds for their period of UK study, which can be up to four years. After graduation, foreign students will be able to work in the UK for two years, up from the current one year.

Tier five covers foreign youth, replacing the Commonwealth Working Holidaymaker (WHM) and the Au Pair Program. Those admitted under tier five must be 18 to 30, and they can remain in the UK up to 24 months. Employers must pay L10 for each tier five foreigner they sponsor.

It is very hard to evaluate the British five-tier program's effects on the admission of highly skilled migrants because it is so new, and has experienced frequent changes recently. Reducing the number of Tier 1 slots should make it harder for foreigners to initiate the migration process, and minimum salary requirements should make it more difficult for British employers to hire non-EU foreigners, including intra-company transfers. Regulations for foreign students are in flux, but if this entry route is narrowed substantially, what had been relatively wide open doors for foreigners into the UK could wind up being partially shut.

However, net migration between India and the UK reached its highest ever level in 2010, 99,000, according to the International Passenger Survey. Indians were 12 percent of immigrants arriving in the UK in 2010.

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<sup>22</sup> Employers must pay L170 for each tier two foreigner they sponsor.

**Table 5. UK: Immigration from and Emigrants to India, 2005-2010 (000)**

	Immigration	Emigration	Net Immigration
2005	95	11	84
2006	98	18	80
2007	105	22	83
2008	100	24	76
2009	110	27	83
2010	129	30	99
2005-10	637	132	505

Source: [www.guardian.co.uk/news/datablog/2010/jun/26/non-eu-immigration-uk-statistics#data](http://www.guardian.co.uk/news/datablog/2010/jun/26/non-eu-immigration-uk-statistics#data)

## Conclusions

Highly skilled migrants, generally defined as persons with at least a first university degree, were less than 10 percent of the global workforce of 3.4 billion in 2010. Many countries have migration policies aimed at attracting highly skilled migrants. There are two major selection systems, (1) supply-based policies that allow individuals to initiate the migration process and award points to individuals for youth, education, and knowledge of the local language, and (2) demand-based policies under which employers request permission to hire particular foreigners. Supply- and demand-based policies can converge if a significant number of points are awarded for having a local job offer, as in Australia and Canada, and employers find it easiest to request visas only for foreigners with at least a university degree, as in the US. In Germany, foreigners desired by employers must have university degrees and satisfy salary and other tests, and they must meet similar requirements and pass an English test in the UK.

The US attracts a large number of highly skilled Indians for several reasons, including multiple entry doors; flexible transition paths between statuses, such as from student to worker and worker to immigrant; and English-speaking workplaces that often offer stock options and usually have lower tax rates on high income earners than European countries. There are several other factors that may make the US attractive to highly skilled Indians, including (1) a large number of settled Indians (the US had 1.8 million Indian-born residents in 2010, behind 11.7 million residents born in Mexico and 2.2 million born in China) who have created a demand for familiar foods, restaurants, and other services; (2) flexible housing markets and bureaucracies accustomed to dealing with internal and foreign migrants; and (3) a belief that the US offers many opportunities for highly skilled workers to achieve success and sponsor their relatives for immigrant visas, including adult brothers and sisters.

Germany's Green Card (2000-04) program and newer programs to admit non-EU foreign professionals since 2005 have attracted few, less than 200 in 2010. The reasons why Germany gets relatively few highly skilled foreigners, including Indians, range from the high salaries that German employers must pay to receive visas for the non-EU foreigners they want to hire to lack of English in some workplaces, fewer stock options and higher tax rates, and a less flexible and friendly society for newcomers. Germany also has more restrictive policies on family unification migration than the US and other traditional immigration countries.

The UK replaced 80+ entry channels with a five-tier admissions system in 2008. Tier 1 admits foreigners without a UK job offer but with personal characteristics likely to ensure their economic

success in the UK, such as knowledge of English and advanced degrees.<sup>23</sup> Some 18,800 foreigners arrived in the UK under Tier 1 in 2009 but, after a November 2010 report found that three-fourths of the South Asians and Nigerians admitted under Tier 1 for post-graduate work filled low-skilled supermarket jobs in the UK, the government reduced the Tier-1 quota to 1,000 for 2011.<sup>24</sup> Tier 2 is more similar to the US H-1B program in the sense that employers initiate the process of having a particular foreigner admitted to fill a vacant job. The UK government in 2010-11 made it more difficult for British employers to have foreign workers admitted and more difficult for these foreign workers to become settled immigrants, but these changes are so recent that it is hard to evaluate them.

The US receives far more highly skilled foreigners, including Indians, than Germany and the UK. Germany may have set the earnings threshold too high to attract many of the foreigners admitted to the US, while the UK's post-graduate work program, unlike US post-graduate programs, did not restrict foreign graduates of local universities to jobs related to their degrees, which is one reason why foreigners earning advanced degrees and remaining in the UK under Tier 1 could stock supermarket shelves.

US experience suggests several options for EU member states seeking to attract highly skilled non-EU foreigners. While it may be appealing to think that employers cast a worldwide net for the best and brightest, US experience suggests that it is easiest to obtain a large number of highly skilled foreign residents if the migration system includes large numbers of foreigners in a variety of temporary statuses, such as students or temporary workers. The foreigners who achieve certain milestones, such as graduating from local universities or being hired by local employers, can be sponsored by employers for immigrant visas or obtain an immigrant visa via another route, such as via marriage.

Such a probationary migration system has Darwinian elements and attracts both highly skilled foreigners at the top of the job and income distribution and those who lie closer to the middle and bottom. Even though Indians are among the most successful immigrant groups in the US, not all Indians in the US become successful IT workers and entrepreneurs, prompting criticism that programs designed to attract the "best and brightest" are in fact delivering mostly "average" foreigners. Countries such as Germany with regulations that restrict admissions to those higher on the ability ladder receive fewer foreigners.

## Recommendations

About 60 percent of the world's 214 million international migrants, as defined by the UN, are in the 30 developed or industrial countries that have a sixth of the world's residents and account for 70 percent of global economic output. International migrants are an average 10 percent of the populations of industrial countries.

Most industrial countries have migration policies that aim to welcome skilled foreigners to settle and rotate low-skilled foreign workers in and out of their labor forces. These policies are hard to execute consistently, explaining why most industrial countries have fewer foreign professionals than they want and more settled low-skilled foreigners than they anticipated.

The EU's 27 member nations have the world's largest GDP. Given slow population growth and aging at a time of increased global economic competition, many EU leaders believe that EU member nations must attract more skilled and professional foreigners to bolster competitiveness and maintain the labor forces of EU member nations. The EU Commission has prodded member states to open doors wider to non-EU professionals with student, Blue-Card, and entrepreneur directives.

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<sup>23</sup> There are three major subcategories within Tier 1: professionals such as doctors and lawyers, foreign graduates of UK universities, and investors and entrepreneurs.

<sup>24</sup> Personal communication from the Migration Advisory Committee. The nationalities of the Tier 1 postgraduates were not released.

The US, which had about 20 percent of the world's international migrants in 2010, accepts about 1.1 million legal immigrants and several hundred thousand unauthorized foreigners each year. Unlike most EU member nations, the US defines itself as a nation of immigrants, and almost all Americans agree that an inflow of immigrants that allows newcomers to achieve the economic mobility they seek while helping to strengthen the US is in the national interest. The major immigration issue over the past decade has been what to do about the estimated 11 million unauthorized foreigners, that is, whether to allow them to earn a legal immigrant status or attempt to reduce their number via various attrition-through-enforcement strategies.<sup>25</sup> This debate about unauthorized migration has taken precedence over the 65,000 a year cap on H-1B visas and the question of whether the US is graduating and retaining a sufficient number of advanced degree holders in science and engineering.

The purpose of the project, Developing a knowledge base for policymaking on India-EU migration, is to generate more and better data on Indian-EU migration, including highly skilled temporary and permanent migrants and low-skilled and irregular migrants. This paper examined policies and their effects on Indian migration patterns in three countries, the US, UK, and Germany.

Based on the analysis, EU member states seeking to attract more high-skilled Indian and other non-EU foreigners may want to:

1. Conduct surveys of highly skilled Indians in the EU to gauge their perceptions of the benefits and costs of migration to other EU member states. The survey could distinguish settled immigrants and British citizens from visitors to explore the relative importance of factors known to affect migration, including salaries, taxes, and stock options, policies toward and living conditions facing family members (including family unification policies), and prospects for entrepreneurship.
2. To attract more highly skilled Indian migrants, target females. Women completing college and university educations may be more likely to emigrate temporarily or permanently if they perceive more opportunities abroad, especially those with advanced degrees. For example, half of the Mexican-born women with PhDs are in the US, and the shares of those with doctorates in science and engineering who have emigrated is even higher, reflecting what many highly educated Mexican-born women report are better opportunities outside Mexico.
3. Make it easier for Indians who graduate from universities in EU countries to remain and work. The US Optional Practical Training program allows all foreign graduates of US universities to remain at least a year and work for US employers in a job related to their field of study was modified in 2008 for those with degrees in S&E-related fields to remain up to 29 months. Post-graduation training at intern or trainee wages offers opportunities for foreign graduates of local universities to encounter employers who will hire them, turning local universities into probationary immigration systems.

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<sup>25</sup> Attrition-through-enforcement is the aim of state laws such as Arizona's SB 1070, enacted in April 2010, that require state and local police to determine the legal status of persons they encounter in enforcing other laws. Unauthorized foreigners encountered by police are subject to state fines and prison terms.

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## Appendix: Indian Immigrants in the United States

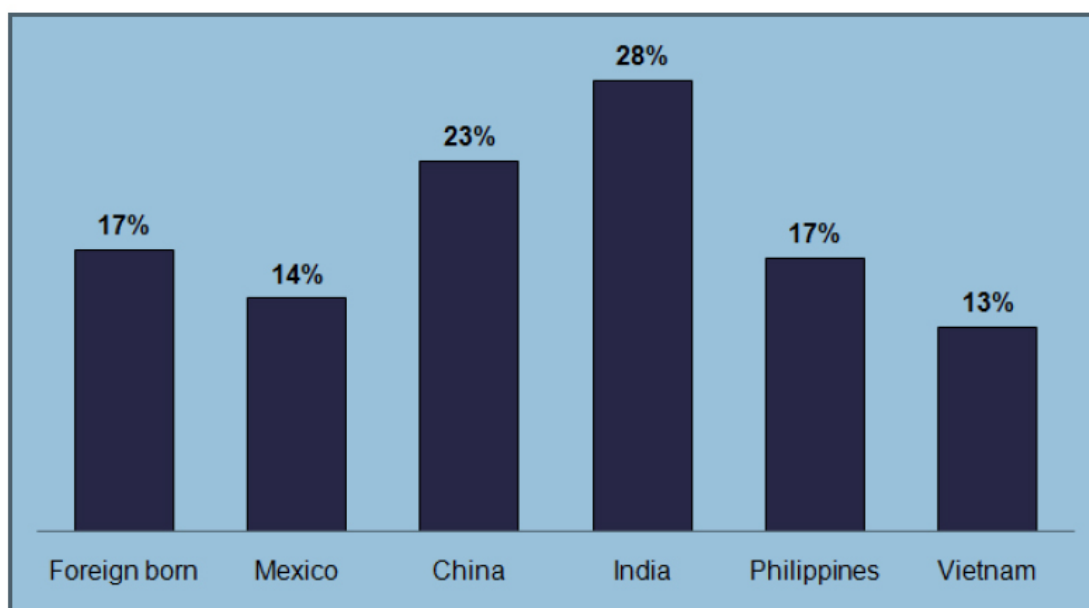
The number of foreign-born US residents was a record 40 million in 2010, making immigrants almost 13 percent of US residents. During the peak years of immigration early in the 20<sup>th</sup> century, the number of foreign-born residents was lower, about 14 million in 1910, but the immigrant share of US residents was higher, almost 15 percent.

Over 80 percent of the 50 million immigrants in 2010 were born in Latin America and Asia. Almost 12 million or 30 percent of immigrants were born in Mexico, followed by 2.2 million born in China, 1.8 million born in India and another 1.8 million born in the Philippines, 1.2 million each born in Vietnam and El Salvador, and 1.1 million each born in Cuba and Korea. These eight countries, each accounting for over a million foreign-born US residents, were the source of 55 percent of US immigrants.

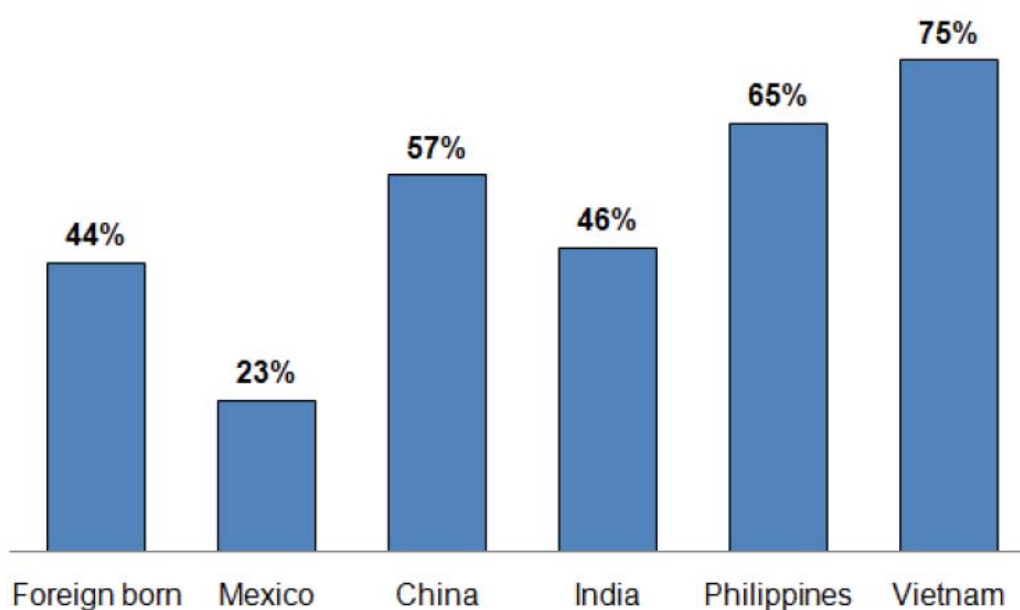
**Table A1. Foreign-Born US Residents by Country of Birth, 2010**

	Number (mils)	Share of Foreign-born
Mexico	11.7	29%
China	2.2	6%
India	1.8	5%
Philippines	1.8	5%
Vietnam	1.2	3%
El Salvador	1.2	3%
Cuba	1.1	3%
Korea	1.1	3%
Big 8	22.1	55%
Total	40	100%

About 17 percent of all immigrants arrived since 2005. However, the American Community Survey found that a quarter of the Chinese and Indians arrived since 2005.

**Figure A1. Immigrants in the US in 2010 who arrived since 2005****Foreign-Born Population in 2010 Who Came to Live in the United States in 2005 or Later by Country of Birth**

In 2010, some 44 percent of the 40 million foreign-born US residents were naturalized US citizens, up from 40 percent in 1990 and 2000 but down from 64 percent in 1970. Naturalization rates vary by country of origin and personal characteristics such as age and income. Naturalization is more likely among those who do not expect to return soon to their home country (like refugees) and by immigrants who want to sponsor relatives for admission. The probability of becoming a naturalized US citizen increases with age, education, income, and English-language ability. The US does not bar dual nationality.

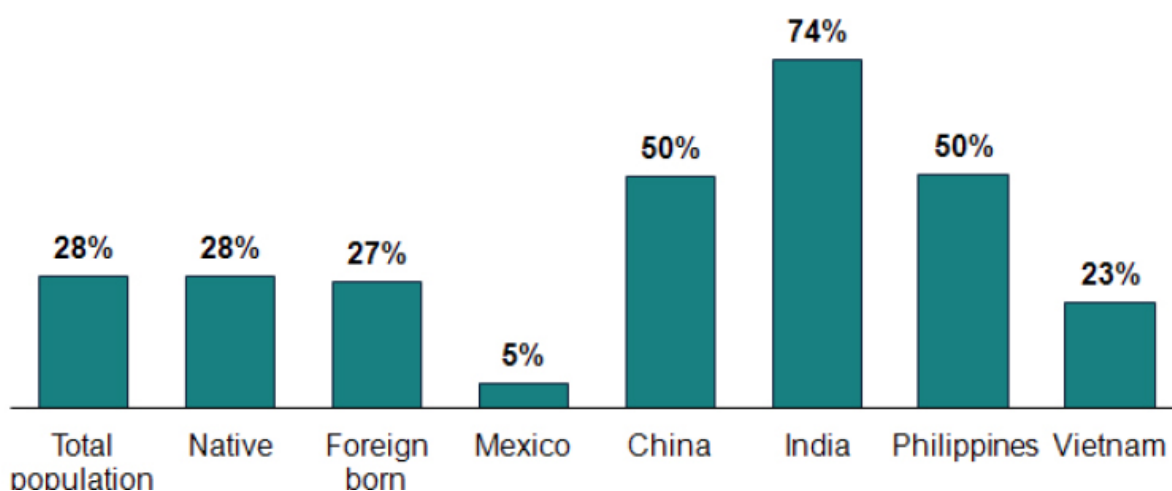
**Figure A2. Percentage of Immigrants who Naturalized by 2010**

Mexicans have the lowest rate of naturalization, reflecting relatively low levels of education, income, and English-speaking ability. Chinese, Filipinos, and Indians have higher levels of education and income, and the lower rates of naturalization of Chinese and Indians are explained by the fact that more arrived recently, so that more have not yet fulfilled the five-year residence requirement. Among the foreign-born 25 and older in 2010, almost three-fourths of Indians who were 25 and older, and half of the Chinese and Filipinos, had a Bachelor's degree or more, versus five percent of Mexican immigrants

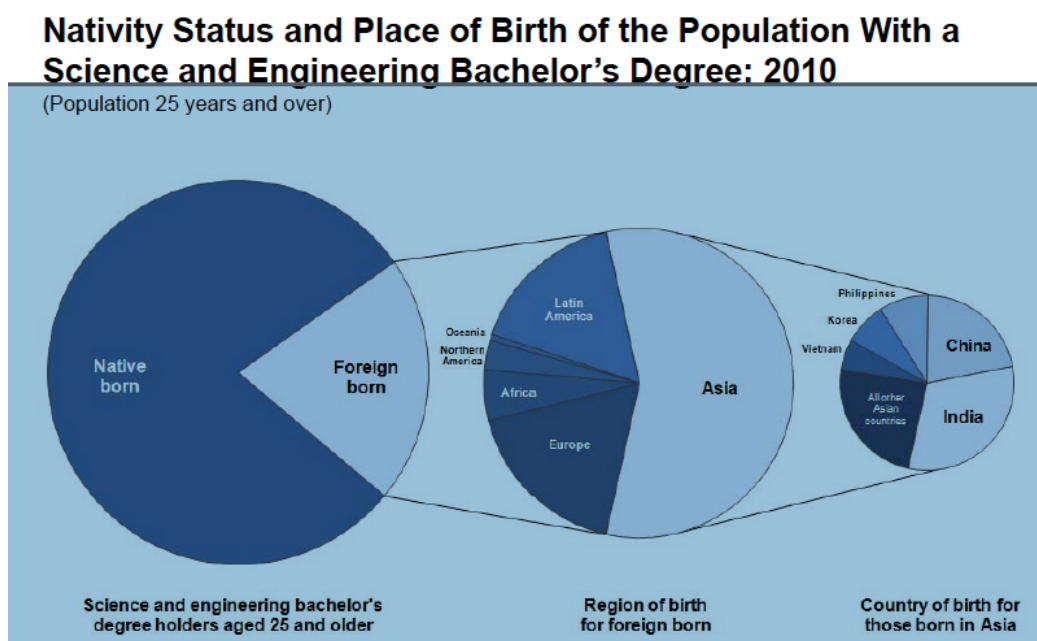
**Figure A3. Percentage of Immigrants with a BS or More in 2010**

### **Percentage of Population With a Bachelor's Degree or Higher Education by Nativity Status and Country of Birth: 2010**

(Population 25 years and over)



Indians and other Asians are well educated, and many have degrees in science and engineering fields. A third of all persons in the US with Bachelor's degrees in engineering are immigrants, as are a quarter of those in computer-related fields. Over half of the foreign-born with Bachelor's degrees in science and engineering in 2010 were from Asia (Asians were a quarter of all the foreign born in 2010), and half of the Asian immigrants with Bachelor's degrees in science and engineering were from India and China.

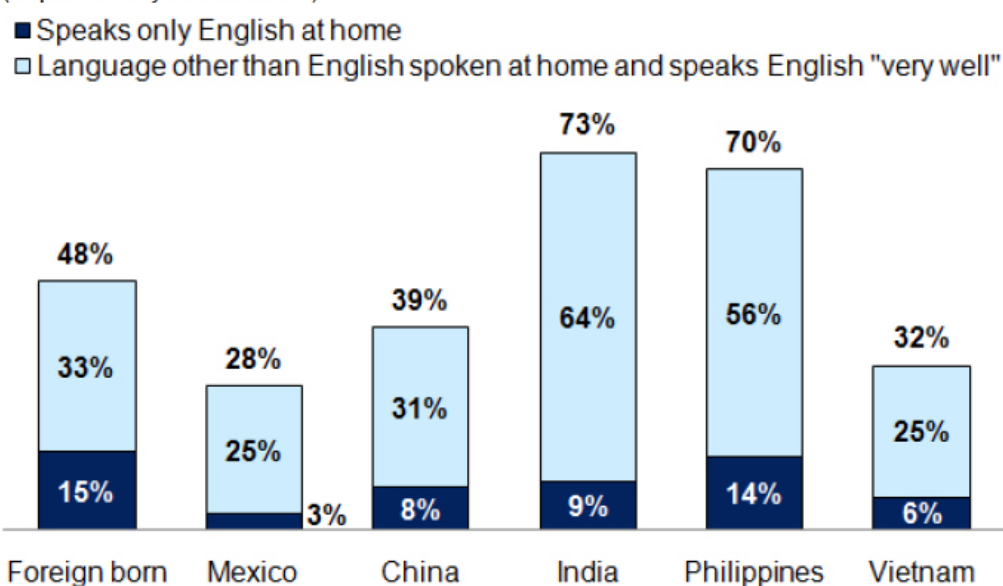
**Figure A4. Immigrants with Bachelor's degrees in science and engineering: 2010**

Another reason more Asian than Latin American immigrants naturalize is because more of those five and older tell the Census that they speak English “very well.” In 2010, almost half of foreign-born US residents reported speaking English “very well,” even though a third spoke a language other than English at home. Among Indians and Filipinos, over 70 percent reported speaking English “very well,” versus less than 30 percent of Mexicans.

**Figure A5. Percentage of Immigrants who speak English “very well” in 2010**

**Percentage of the Foreign-Born Population by Language Spoken at Home and English-Speaking Ability by Country Birth: 2010**

(Population 5 years and over)

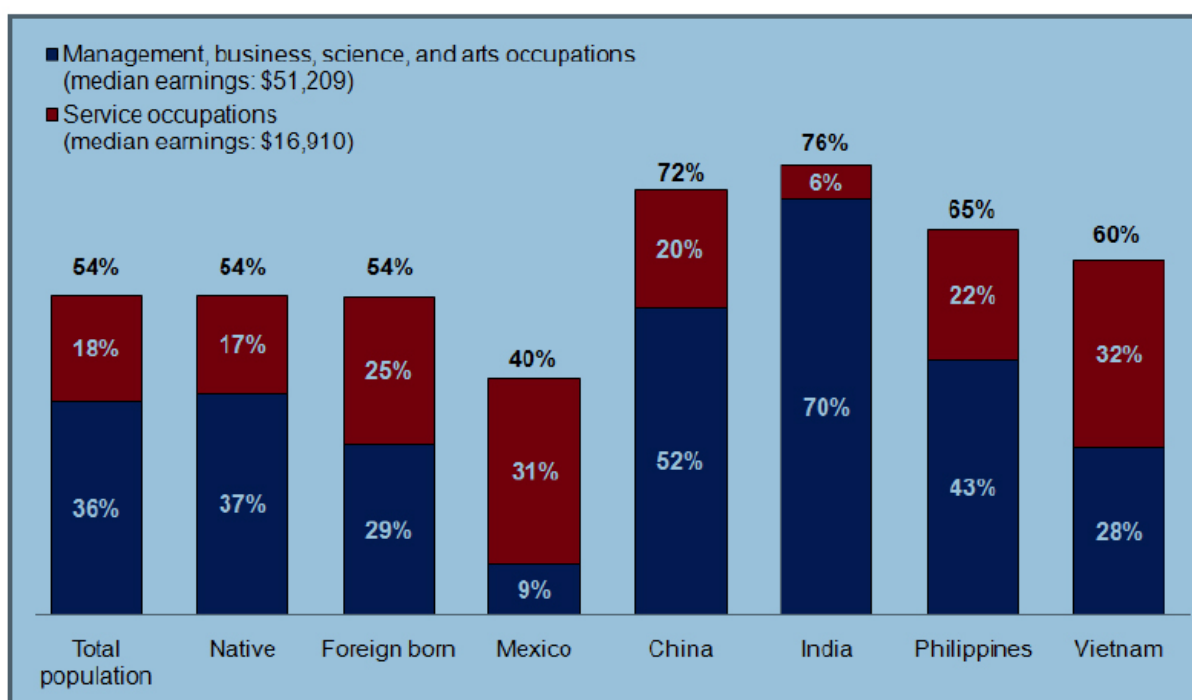


More education and better English contribute to a different occupational profile and higher earnings. Some 70 percent Indian immigrants in the US labor force in 2010 had management, science and similar occupations where median earnings averaged \$51,200, a higher share than the 37 percent of US-born workers in these occupations. Only nine percent of Mexicans were in high-earning management, science and similar occupations, and 31 percent were in low-earning service occupations that had a median \$16,900 in earnings (32 percent of Vietnamese were in low-earning service occupations).

**Figure A6. Shares of Immigrants in Management and Service Occupations, 2010**

### Occupation by Nativity Status and Country of Birth: 2010

(Civilian employed population 16 years and over)

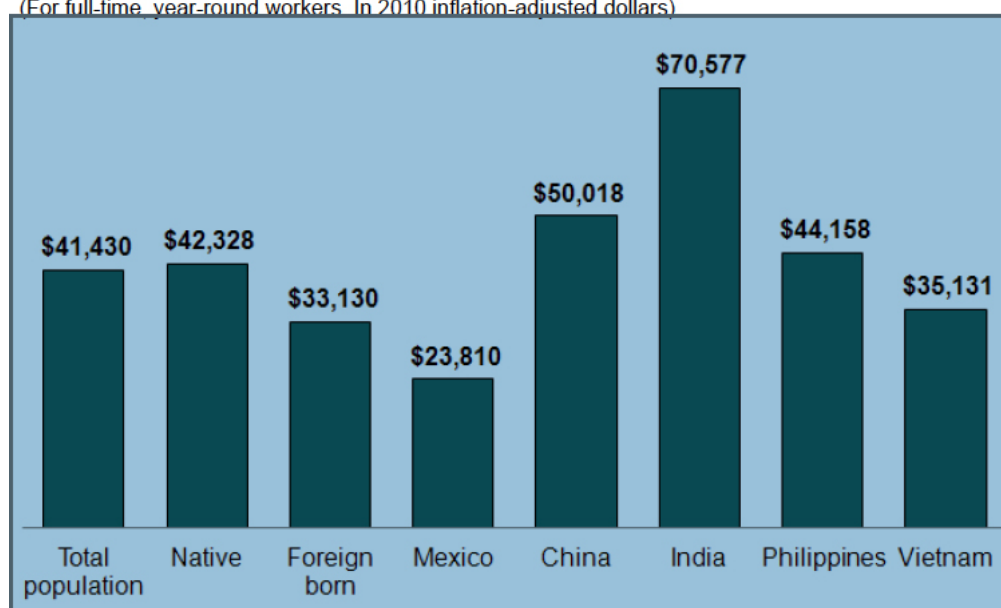


The result of more education, better English, and a concentration in management and science occupations is higher earnings. Indian immigrants had the highest year-round median earnings in 2010, \$70,600, significantly above the \$42,300 median for US-born workers. Both Chinese and Filipino immigrants had median earnings above the median for US-born workers, while Mexican immigrants earned just over half the median for US-born workers.

**Figure A7. Median Earnings During Past Year, 2010**

### Median Earnings in the Past 12 Months by Nativity Status and Country of Birth: 2010

(For full-time, year-round workers. In 2010 inflation-adjusted dollars)



Few Indians with high levels of education and a concentration in management and science occupations are poor. Indian and Filipino immigrant families in 2010 had the lowest poverty rates among major immigrant groups, four percent, versus 29 percent of Mexican immigrants. About 17 percent of families headed by an immigrant were poor in 2010, versus 10 percent of families headed by a US-born person.

**Figure A8. Poverty Status of Families, 2010**

### Percentage of Families in Poverty by Nativity Status and Country of Birth of Householder: 2010

(Includes families for which poverty status was determined)

