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H-1B Temporary Workers: Estimating the Population

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The U.S. immigration system includes two different classes of visas: temporary visas issued to “non-immigrants” and permanent visas (green cards) issued to immigrants. Temporary visas grant limited rights, while permanent visas have traditionally conferred considerable rights and privileges to persons who may choose to become U.S. citizens. In granting specific rights to visit, study, or conduct business in the United States, almost all temporary visas are issued according to some set of guidelines that seek to assure that the recipient returns to their country of origin.

The H visas are a select class of temporary visa that confer work authorization and skilled workers are admitted under an H-1 visa that was created in the early 1950s.¹ Originally, the visa required that the job a foreign worker filled be temporary, and that the foreigner establish an intent to return home. Since then, the double temporary provisions of this nonimmigrant visa have been removed. Employers have been able to hire for permanent positions since 1970 and, with the introduction of the “H-1B” visa in 1990, the worker may have dual intent to stay either temporarily or permanently. As one might expect, these changes are associated with expectations of permanency on the part of many employers and foreign workers.

As of the number of visas issued was increasing in the late 1980s Congress imposed restrictions intended to protect the domestic worker. Originally, the visa had no numerical limitations and few labor protections. That changed in 1990 when a numerical cap of 65,000 new H-1Bs per year was imposed. A numerical cap is intended to damp down escalating demand for foreign workers and encourage internal market adjustments that are in the best long-term competitive interests of the U.S. economy (e.g., increased training, better wages and working conditions, new technologies, or innovative production strategies). At the same time, employers were required to attest that they would meet certain labor standards. For the most part the employer’s labor attestation has worked well, insofar that it takes little time to process and in that most employers do not exploit their H-1B workers.

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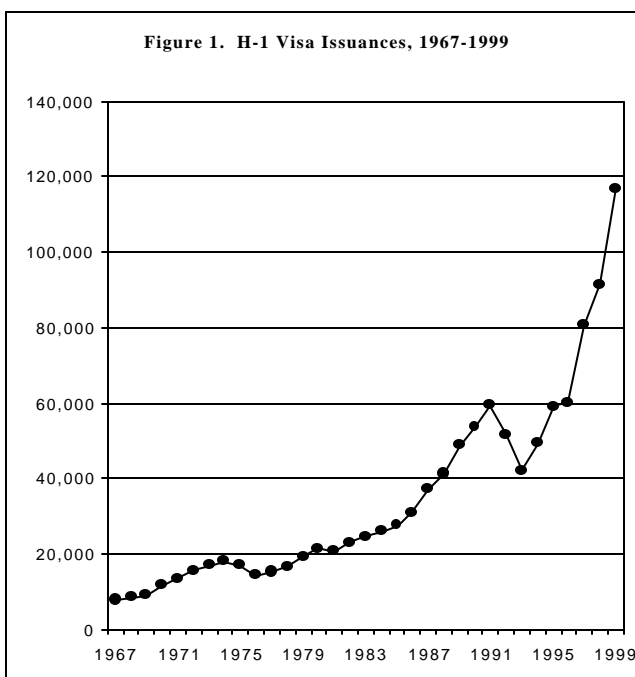
¹ As will become clear later in the paper, the H-1 visa was subdivided in later years into the short-lived H-1A for nurses and the continued H-1B that is the topic of this paper. Thus, the H-1 is the generic work visa and the surviving H-1B is a renamed and refashioned version of the same.

The imposition of a numerical cap as a means of limiting labor market impacts was prescient insofar as demand for H-1Bs has indeed continued to grow. Today this reflects demand for the visa largely by the rapidly expanding information technology (IT) sector. It reflects too, the growth in supply of foreign-born IT graduates from U.S. colleges, the changed nature and appeal of the visa, and procedural backlogs faced by those who would prefer admission via the permanent system that make the H-1B an easier alternative (see Lowell 1999b). In recent years employer demand for H-1Bs has been such that the numerical cap was exceeded before the year ran out. In response, Congress raised the cap in 1999 for a three-year period and is once again considering raising the cap to meet the apparent demand for H-1Bs.

But while these basic trends are known, they are not widely appreciated and yet more basic facts are altogether unknown. For instance, the available administrative data or official estimates do not tell us anything about the size of the population created by the yearly addition of new H-1Bs. Policymakers have not known how raising the numerical cap (new yearly admissions) affects the size of the H-1B labor force (working population). Nor have they known how many H-1Bs adjust from their temporary visa to permanent resident status, although we can be certain that many will desire to do so. Just how many H-1Bs fill U.S. jobs and how many can we anticipate will desire to become permanent residents?

This paper describes the historical and legislative background of the H-1B visa. It goes on to describe changes in the origins and occupational composition of that population. The major task of the paper is to present demographic estimates and forecasts of the H-1B population, i.e., the size of the workforce that is here in any given year. Integral to those figures are equally important estimates of the population adjusting to permanent status and of that remaining at the end of the visa stay.

Historical growth of H-1 workers



As Figure 1 shows, the number of H-1 visas issued by the State Department had more than doubled each decade from the 1970s, to the 1980s, and again during the 1990s. But the H-1 visa entered a truly dynamic numerical growth phase beginning in the 1980s.¹ Congress first set a limit to H-1B growth in the Immigration Act of 1990 (IMMACT90) by setting a cap of 65,000 that went into place starting in 1992. Given the long-run increase, the surprising drop off in numbers shown in Figure 1 during 1993 and 1994 can be attributed to two effects.

First, beginning in 1992 IMMACT90 further separated out H-1B occupations such as entertainers and models into new visa categories (mainly O and P). These classes of admission admitted just less than

20,000 yearly at that time. If these new visas were recombined back into the H-1B, then the decline would essentially fill in, though a period of flat growth would remain between 1991 and 1995.

Second, the 1990 Act was passed in part because of a growing backlog for legal admissions in the permanent employment-based classes, so the Act nearly tripled the number of such permanent slots available. In the immediate post-IMMACT90 years, many potential H-1B applicants bypassed the temporary visa and went directly to permanent resident status. This strongly demonstrates the preference that most temporary H-1Bs and their employers had and have for permanent visas. Since then, the number of permanent visas processed has continued to decline markedly since 1995 due to processing backlogs at the involved U.S. agencies, which defers employer and foreign worker demand from the permanent to the temporary visa.²

Continued growth in the demand for the H-1B visa is due then to a number of factors including the employers' use (or not) of the permanent system, cyclical demand in growth industries, a buoyant U.S. economy, changes in the nature of global competition that creates demand for foreign workers, growth in supply of U.S.-educated foreign students, and the self-generating nature of migrant employment networks. In lieu of a cap, it seems reasonable to speculate that the number of H-1B visas being issued would continue strong growth. What natural limits the market would set is unknown. After three decades of cultivation of the H-1 program it is, obviously, quite well integrated into and responsive to U.S. employer demand.

Legislative history of the skilled temporary Visa

As originally set forth in the Immigration and Nationality Act of 1952, an H-1 nonimmigrant was "an alien having a residence in a foreign country which he has no intention of abandoning (i) who is of distinguished merit and ability and who is coming temporarily to the United States to perform temporary services of an exceptional nature requiring such merit and ability." The use of words "temporarily" and "temporary" is significant, in that the alien must be coming to the United States for a limited period of time to perform a task which is temporary in nature. In 1970 Congress removed the word "temporary" before "services," thus enabling an H-1 to come temporarily to a permanent position. The legislative history for this change indicates that Congress felt that the provision, as originally written, was too limiting.

Congress never defined the term "distinguished merit and ability." An administrative decision of the Immigration and Naturalization Service, held that the term "implies a degree of skill and recognition substantially above that ordinarily encountered, to the extent that a person so described is preeminent in his field of endeavor."³ The House Judiciary Committee in its report on the 1970 legislation adopted the Immigration and Naturalization Service's (INS) interpretation of the term, differing in that they used the word "prominent" instead of "preeminent" and adding the descriptive phrase, "or has a high level of education."

² One of the results of this research are estimates of year-to-year rates of adjustment from temporary to permanent status (see discussion later in the paper). Throughout most of the program the third year of stay was when most adjusting H-1 workers changed to permanent status and the mean time to adjustment was about 3.5 years. The combined paperwork processing times taken by the Department of Labor and the Immigration and Naturalization Service pushed that time back sometime after 1992 reaching an estimated 4.6 years to adjustment in 1997 and 1998 (at which time the average proportion of adjusters also dropped precipitously).

³ *Matter of Shaw* 11 I&N Dec. 277 (D.D. 1965).

Two years later the INS determined that members of the professions were included in the H-1 classification.⁴ This inclusion was without regard to preeminence or prominence. This finding was later reiterated when it was noted that the performance of professional services is within the meaning of "distinguished merit and ability."⁵ The decision went on to say that the attainment of an undergraduate degree alone will equate to distinguished merit and ability where such a degree is the basis for entering into the profession.⁶

The Immigration Nursing Relief Act of 1989 separated registered nurses from the rest of H-1 by setting up the new H-1A visa. The rest of the classification became H-1B. A primary requirement for H-1A classification was the filing of an attestation by the medical facility with the U.S. Department of Labor. In this document, the medical facility attested to both facts and commitments, including a general vacancy rate for nurses, above-average salaries, training programs, incentives, and other practices designed to alleviate the nursing shortage. The H-1A classification was limited in duration expiring in September of 1995.

The Immigration Act of 1990.

During the 1980s, INS came under fire from organized labor and Congress for its administration of the H-1 classification. Of particular concern was the large number of H-1 nonimmigrants coming to the United States to work in entry-level positions. In view of the concerns of organized labor and Congress, INS commissioned Booz, Allen and Hamilton (1988) to conduct a study. The report found the use of H-1 nonimmigrants in entry and middle level positions to be inappropriate, e.g., such workers do not possess the skills intended by Congress for the visa. At the same time, they also found no adverse impact on U.S. workers, including entertainers and professionals.

Nonetheless, the legislative history of the Immigration Act of 1990 indicates that there were several H-1 issues that concerned the drafters. Of primary concern was that there was no domestic labor test for qualification; and that H-1 admissions as counted by the INS had increased dramatically, e.g., from 45,000 in 1981 to 78,000 in 1988. Further, according to the Report of the House Committee on the Judiciary, "... the erosion of definitional lines through administrative decision making has meant that little-known entertainers and their accompanying crews qualify within this category, and aliens with nothing more than a baccalaureate degree have been deemed 'distinguished....'"

⁴ *Matter of Essex Cryogenics, Industries, Inc.*, 14 I&N Dec. 196 (D.A.C. 1972).

⁵ *Matter of General Atomic Company* 17 I&N Dec. 532 (Comm. 1980).

⁶ Legislation passed by Congress in 1976 and 1977 had direct effects on the ability of foreign medical graduates to qualify for H-1 classification. The 1976 legislation defined foreign medical graduates as "aliens who have graduated from a medical school or who have qualified to practice medicine in a foreign state." Legislation in 1977 provided an exception to this definition by exempting "aliens who are of national or international renown in the field of medicine."

In a parallel to today's debate, some observers believed that reliance on these foreign workers was excessive and that H-1 nonimmigrants had an adverse impact on U.S. wages and working conditions. In short, the INS regulations for the H-1 visa "did not reflect congressional intent" (GAO 1992, p. 17). Thus, in early 1990, INS issued a regulation that significantly tightened up the H-1 classification by articulating standards for qualification as a professional or a person of prominence. Going further, in IMMACT90 Congress took aliens of prominence out of H-1 and created the new O and P classifications. The H-1A was retained and the H-1B was now to consist solely of aliens in specialty occupations.

Additionally, prospective employers would now be required to file labor condition applications for the H-1B with the U.S. Department of Labor as to wages and working conditions. According to the House Committee Report, this latter requirement "... will provide a more valid test of the employer-asserted need." Congressman Bruce Morrison, Chairman of the Immigration Subcommittee, noted during the floor debate: "...this law perfects the rules regarding the temporary admission of workers to this country, an area that is subject to abuse, and the rules and standards are tightened for the benefit of American workers." Admissions of H-1B nonimmigrants were limited to 65,000 a year (no numerical limits were imposed on the H-1A or the new O and P classifications).

And while tightening up the H-1B classification in many areas, the bill recognized that many employers hired nonimmigrants with a dual intent, i.e., as temporary workers at the moment and as potential permanent additions to their work forces. The legislation permitted entry of nonimmigrant H-1B workers who may possess both an intent to work temporarily and to immigrate permanently at some future time. The legislation, therefore, limited the duration of H-1B status to six years (an increase of one year over the prior temporary stay). At the same time, IMMACT90 removed the language in the H-1 statutory description that required that the H-1B have "a residence in a foreign country which he has no intention of abandoning." In effect, the new legislation continued the H-1B as a temporary work authorization program. Yet, by removing the requirement of temporary intent, the H-1B differs from other nonimmigrant visas and implicitly encourages a transition to permanent residency.⁷

The Labor Condition Application

Under IMMACT90 employers seeking H-1B workers must submit a labor condition application (LCA) or labor attestation to the Department of Labor that certifies that:

- The employer pays the prevailing wage to those aliens and all similarly employed workers in the area of intended employment. If the actual wage level is higher than the prevailing wage, the actual wage level paid by the employer must be paid to all other individuals with similar qualifications for the specific employment in question.
- The employer will provide working conditions for such aliens that will not adversely affect the working conditions of similarly situated U.S. workers.
- There is no strike or lockout in the course of a labor dispute involving the occupational classification at the place of employment.

⁷ Indeed, employers since 1970 were permitted to employ H-1 workers in jobs that were of a permanent nature, and by 1990 just over half of the employers of H-1s reported that the job was intended to continue permanently (GAO 1992).

The employer has provided notice of the application to the workers' bargaining representative, or if the facility is not unionized, has posted a notice in conspicuous locations at the place of employment.

The application must also specify the number of workers sought, the occupational classification in which the workers will be employed, and the wage rate and conditions under which they will be employed. The Department of Labor's review of the application at this stage is not substantive. The statute provides that the Secretary will review the applications only for completeness and obvious inaccuracies. Unless the Secretary finds that the application is incomplete or obviously inaccurate, the Secretary must provide certification within seven days of the filing of the application.

Upon certification of the labor condition application, the employer then may submit a copy of the certified application to INS with a completed petition (INS Form I-129) requesting H-1B classification. The nonimmigrant worker may not begin work until INS has granted authorization for the worker to be employed in the U.S.

Temporary workers may be admitted in H-1B status for the period of time required by the employer, up to a maximum initial period of stay of three years. The period of stay may be extended for up to three additional years, for a maximum total period of admission of six years. The H-1B worker may change employers, but if he or she does another LCA and another H-1B petition must be submitted (and the total length of time a worker may stay remains six years). Typically, the H-1B remains with a single employer throughout their work stay, especially those who choose to adjust as their initial employer is often their sponsor for green card status.⁸

The American Competitiveness and Work Force Improvement Act.

Primarily as the result of lobbying by the information technology industry, in the closing months of 1998 the U.S. Congress passed the "American Competitiveness and Work Force Improvement Act" (ACWIA). The new legislation, beginning in October of 1998, provides a provisional increase in the number of available H-1B visas from 65,000 per year to 115,000 per year in 1999 and 2000, and 107,500 in 2001. Unless new levels are legislated, the numerical limit is to return to 65,000 in the year 2002.

As a trade off to those who opposed increased numerical limits, the ACWIA bill includes new worker protections for so-called "H-1B dependent" firms, e.g., those most likely to unfairly exploit the specialty worker at the expense of U.S. workers. Dependent firms are defined as those with a certain percentage of their workforce who are H-1Bs. For the dependent firm, there are two important extra worker protections required. Employers must attest that no U.S. workers are laid off for the three months before and the three months after hiring of the H-1B. And employers must attest that they have made significant steps to recruit U.S. workers. These protections will come off in three years when the number falls back to 65,000 unless a new cap is voted on. However, some critics believe that exemptions to the definition may mean that very few firms may be classified as dependent.⁹

⁸ Changing employers would be risky today because it takes 4-6 years to process the paperwork for admission as a permanent resident (e.g., the length of stay under the H-1B).

⁹ Besides which, the dependent employer regulations have yet to be implemented by the U.S. Department of Labor. In principle, this type of screening mechanism would lessen the need to depend upon after-the-fact enforcement of labor standards and reinforce the level playing field between employers. It also places truly minimal additional reporting requirements on the vast majority of employers keeping burden low. Unfortunately, it seems that even such low-levels of reporting that are in the community's self-interest are opposed by many.

The new law also has a requirement that H-1B workers receive the same fringe benefits as U.S. workers. The Act requires an additional \$500 fee for petitions filed and provides for new investigative procedures and new penalties for violations. The bulk of the fee will go toward training of displaced workers and scholarships for low-income students. Employers such as universities, federally-funded research institutes, etc., are exempt from the fee. Other provisions require reporting by various U.S. agencies on the H-1Bs countries of origin, occupations, educational levels, and compensation. A report by the National Science Foundation is to address the impact of H-1Bs on the information technology labor market, including purported discrimination against older workers in the information technology industry that may be abetted by the supply of H-1Bs.¹⁰

Pressures on the Cap and Pending Legislation

While employers welcomed the increase in the H-1B cap, even that will not be sufficient given backlogs carried over from prior fiscal years and ever growing demand. Already by the end of December 1998 59,108 of the 115,000 H-1B visas available for Fiscal Year 1999 had been used — 19,431 of the visas were issued to migrants whose applications were held over from the last fiscal year and 39,677 were new cases. Indeed, available visas under the cap ran out before years' end in 1999. Already in fiscal year 2000, the available visas are running out and the INS will process no new applications by midyear.

With the demand for H-1B workers exceeding even the expanded cap, Congress is once again being lobbied to increase the permitted H-1B workers once again. The several bills that have been considered variously increase the numbers at least 40 to 75 percent, introduce an unlimited H-1 for foreign graduates of U.S. schools, impose new fees for training, and enforce the dependent employer safeguards.

At this time, three bills are actively being considered in the Congress. A bipartisan Senate bill, the American Competitiveness in the Twenty-first Century Act (ACTFCA), would raise the annual H-1B visa cap to 195,000 for three years. It would also create a class of unlimited visas for certain foreign workers with graduate degrees from U.S. colleges and universities. A bipartisan bill in the House of Representatives would increase the cap to 200,000 for three years while doubling the application fee to \$1,000. Yet another bill in the House would increase the application fee and introduce significantly new worker protections, while removing the numerical cap altogether for a two-year period.

Demographic characteristics of specialty workers

The characteristics of H-1 workers have changed over time. In part, these changes have to do with the legislative shifts in the type of occupations covered by the H-1 [sic] H-1B visa. Even more so; however, these changes have to do with cyclical demand by different industries with unique labor needs and by the countries of origin that supply the H-1 workers.

¹⁰ Missing in this entire discussion is the TN (Trade NAFTA) temporary class of admission that permits tens of thousands of Canadians to work in the United States with no numerical cap and no control on labor standards. This class of admission clearly parallels the H-1B in terms of the occupations it supplies and is in addition to the population estimates made here for H-1Bs. Unfortunately, there is no way to reliably estimate this population for which the INS counted 26,794 cross-border crossings (admissions) in fiscal year 1996.

Specialty Occupations

The vast majority of aliens in the H-1/H-1B classification are aliens in specialty occupations. As defined in INA 214, a specialty occupation is one which requires a "theoretical and practical application of a body of highly specialized knowledge." The basic statutory requirements are a bachelor's degree or higher in the specialty and a full state license if such a license is required. The statute goes on to provide for equivalence of the degree through experience in which case there also be recognition of the alien's expertise.

Unfortunately, an accounting of the occupations included in specialty occupations is not part of regular INS statistics. Our knowledge of the occupations actually filled by H-1Bs comes indirectly either from the occupations reported by employers on the Department of Labor condition attestation, or from samples taken of INS's petition information for new H-1Bs (Lowell 1999a). The Department of Labor occupations as reported on the LCA is reliable, but they do not represent the occupations of persons who actually are petitioned for and who receive the H-1B visa.

Consider instead two random samples of approved INS petitions for newly admitted H-1 visaholders taken by the General Accounting Office around the time Congress first expressed concern with the H-1 program, and a more recent sample of H-1B visaholders taken by the INS to meet Congressional information mandates. Table 1 shows the occupations from a representative sample of H-1s in 1989. At that time the leading occupations were in nursing (and medical occupations) which was later incorporated into the separate H-1A stream. Those in the entertainment, movies and television occupations were separated out after 1992 by IMMACT90 into the O visa category.

Table 1. H-1 Occupations for Northern and Eastern INS Regions, 1989.

Occupation	Number	Percent
Nursing, health care, medical, and related	16,689	27.7
Entertainment, movies and television, modeling, and allied	9,764	16.2
Engineering, science, and related	8,813	14.6
Computers, programming, and related	6,894	11.4
Managers and executives	10,127	3.6
Marketing and sales	1,892	3.1
Finance, law, accounting, and related	1,259	2.1
Supervisors, skilled craftsmen, and technicians	541	0.9
Other occupations	1,445	2.4
Did not respond	636	1.1
Total	60,256	100.0

Source: GAO 1992, p. 33

As Table 2 shows, by 1999 computer-related occupations had come to dominate the flow of H-1B visaholders. In fact, even if nurses and entertainers are removed from the 1989 data, the computer and related occupations would have been no greater than 20 percent of all new H-1s in

Table 2. H-1B Occupations Nationally, 1999.

Occupation	Number	Percent
Occupations in systems analysis and programming	71,700	53.3
Electrical/electronics engineering	6,500	4.9
Computer-related occupations (not elsewhere classified)	4,600	3.4
Occupations in college and university education	4,000	3.0
Accountants, auditors and related	3,800	2.8
Architecture, engineering, and surveying	3,000	2.3
Other occupations	40,800	30.3
Total	134,400	100.0

Source: INS 2000.

that year. If we consider the core computer occupations in 1999, and the related engineering and computer-related occupations, these information technology occupations comprised 57 percent of all H-1B occupations just last year—representing a 280 percent increase in computer occupations over the decade.

These trends cannot be followed on an industry basis because, while we have information on industry of employer in 1989, the INS did not collect industry data for 1999. If they had, it is likely that the changes by industry would reflect those seen in the occupational statistics. For example, in 1989 education and nonprofit science industries dominated H-1 visas (23 percent), followed by hospitals and health care (18 percent), and entertainment (13 percent). As a point of comparison, a study of the top 100 users of H-1 visas in 1998 finds that 80 percent of H-1B employers are in information technology industries (Lowell and Christian 2000). It appears that the H-1 visa used to be rather diverse. Since the H-1 was split out to O and P visas, demand for health occupations has declined, and information technology has led U.S. economic growth. The information technology industry has come to dominate the H-1B visa as no single industry has previously.

Countries of Origin

The shift in H-1 occupations has been accompanied by a shift in the countries from which H-1 visaholders come. Table 3 shows the leading ten countries for 1999 and their number of H-1 visas issued in that year and for the preceding decade (e.g., including H-1As from 1990 through 1995). The Philippines was the leading origin for H-1s from 1989 through 1993 during the period when medical-related occupations dominated the H-1 program and its numbers peaked in 1995 at the end of the H-1A nursing program. Indian H-1Bs grew steadily from 1989 clearly becoming the largest category in 1994, then doubling in size by 1996, and quintupling by 1999—a remarkable pattern of growth and accounting for nearly half of all visas issued in 1999 (47 percent). No other country during the lifetime of the program has so completely dominated the H-1 visa.

State Department visa issuances differ from INS petitions data, e.g., issuances for various reasons may not exactly equal the visa petitions approved. Petitions data, other things being equal, are to be preferred. However, as Table 4 shows, the 1989 GAO survey and the 1999 INS random samples of H-1 petitions give the same story as that presented by the State Department visa issuances. The random samples indicate that Indian H-1s comprised 9 percent in 1989 and nearly half (48 percent) of all H-1s by 1999, soundly displacing the Philippines that had been the leading country in 1989 with just less than one-quarter (24 percent) of the total. The United Kingdom and mainland China have switched place as second largest sending country (less than 10 percent in either year). The United Kingdom has sent a relatively steady number of H-1s which has translated into a declining percentage of the growing number of H-1s. And while China's numbers have increased, these H-1s are not the major presence that casual observers sometimes suggest.

Table 3. H-1 Visas Issued by Country of Origin, 1989-1999.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
India	2,144	2,697	4,102	5,552	7,606	11,301	15,528	19,203	31,686	40,247	55,047
UK	6,663	7,174	8,794	6,726	3,993	4,230	4,771	5,601	6,928	6,343	6,665
China-ml	837	610	1,145	894	1,031	1,256	1,887	2,330	3,214	3,883	5,779
Japan	3,678	3,791	5,167	2,767	2,152	2,217	2,070	2,411	2,929	2,878	3,339
Philippines	6,055	7,302	7,221	7,550	7,596	8,753	10,026	4,601	2,685	2,758	3,065
France	2,318	2,293	2,413	1,686	870	1,003	1,216	1,463	1,894	2,110	2,633
Germany	1,798	1,637	1,888	1,501	1,012	1,092	1,484	1,518	2,088	2,242	2,451
Mexico	2,951	3,727	3,227	2,488	1,307	1,147	1,451	1,909	2,785	2,320	2,419
Australia	872	827	1,102	990	863	1,050	1,042	1,123	1,438	1,666	1,651
Russia	2,256	3,709	3,942	1,651	1,892	1,245	1,196	1,255	1,357	1,395	1,619
Total	48,820	58,673	59,325	51,667	42,206	49,284	59,093	60,072	80,608	91,378	116,695

Source: U.S. Department of State, Visa Office

Table 4. H-1 Visas by Country of Birth on INS Petitions, 1989 and 1999.

Country of Birth	1989 (percent)*	1999 (percent)**
India	8.8	47.5
China-ml	5.7	9.3
United Kingdom (UK)	9.9	3.2
Canada	4.1	3.0
Philippines	23.5	2.7
South Korea	1.3	2.3
Taiwan	3.3	2.1
Japan	6.5	2.0
Other Countries	36.9	27.8

Sources: * GAO 1992, p. 35; ** INS 2000.

These shifting shares of the origins of the H-1 population are clearly part of the shift from an H-1 program dominated by the nursing and the medical-related professions, along with teaching, to a program dominated by the computer-related occupations. In this regard, India has become the dominant nation quite certainly because it has a large supply of computer-trained workers and, quite likely, because prior waves of Indian information technology workers have successfully established a beachhead in the industry that places them first in the demand queue.¹¹ The information technology industry is the leading growth sector of the U.S. economy and it is drawing on the readily available source of trained information technology engineers from India.

The H-1/H-1B population estimates

Since the H-1 visa was created in 1952 we have had a good idea of how many H-1s are entering the country, but no benchmark estimate exists of the population actually working in the country at any given point in time. Because the administrative data does not track the entries and exits of H-1s in any meaningful fashion, a demographic model was constructed to estimate the resident population working in the United States.¹²

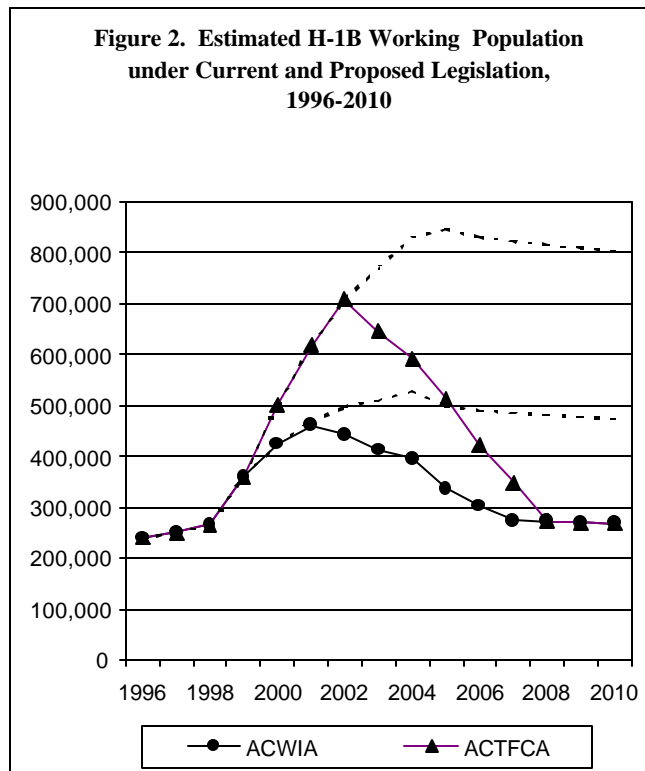
The H-1 population enters the country for a five-year maximum (1972-1991) to a six-year maximum (1992 to present) “temporary” legal stay. The final population depends not upon just the addition of the entering cohorts over time, but upon the rate at which they exit the H-1 population. The entering cohorts of H-1s are depleted by emigration, deaths, and adjustment to permanent status (or by illegal overstay of the visa). The Appendix describes the derivation of the population estimates, data, and the assumptions that were made to model the current and future population.¹³

¹¹ For example, a study of the top 100 companies employing H-1Bs in 1998 shows that 60 percent of their CEOs had South Asian surnames (Lowell and Christian 2000).

¹² Estimates by Passel and Clark (1998) are based on the Current Population Survey and are based on imputation of H-1B/L-1 status based on likely individual characteristics. Because this is a sample of households and “usual” residents, it generates figures in the 60,000 range that are clearly too low to be reliable.

¹³ The discussion below will present estimates of adjustment. Discussion of mortality and emigration are given in the Appendix; however, these are invariant rates. Mortality is set to that of average White and Asian males (the mix of H-1B visaholders) in the

Workforce Population Estimates. The first year for which population estimates can be generated are 1976, at which time there were 72,000 H-1 workers in the United States. That population grew to 82,000 in 1981 and, at the outset of IMMACT90's implementation in 1991, the population of H-1Bs is estimated to have stood at 204,000. These rates of population growth track the changes in the underlying growth of visas issued over the same time period. As of 1999, the population is estimated to have grown to 360,000, drawing upon entry cohorts that increased from 49,000 to 137,000.



Forecasts of the population are given under two scenarios. What would the population be under currently legislated caps under the American Competitiveness and Workforce Improvement Act (ACWIA), as compared with low estimates of populations generated by the proposed Senate American Competitiveness in the Twenty-First Century Act (ACTFCA)? The former permits a number as high as 115,000 for a three-year period to be phased out in 2002; the latter permits a number of at least 195,000 per year to be phased out in 2003.¹⁴

As Figure 2 shows, the estimated population for the current year 2000 is about 425,000 given current ACWIA levels of admission. The ACWIA population reaches a high of 460,000 in 2001 and then begins to decline as the permitted number of H-1s under the cap drops to 65,000, reaching a stable population of around 270,000 by the end of this decade in 2010.

modal years of their stay ages 27 to 33. Emigration rates are taken from Census Bureau estimates of all foreign-born across the 1980 and 1990 Censuses. The later set of rates may well vary much more strongly over time than these fixed rates permit, decreasing over the history of the program. Nonetheless, they produce a high number of emigrants as might be expected with temporary populations.

¹⁴ Clearly, with a portion of that proposed legislation being uncapped, it is quite possible that much large numbers would result. However, it is difficult to speculate how much more than 195,000 the numbers would go. As 20,000 of the current flow were formerly temporary foreign students perhaps, the number could go at least as high as 220,000.

What if the Senate bill passes into law and the cap was raised to 195,000? Those estimates are also shown in Figure 2 and indicate that much larger workforce populations result. If the H-1B numbers were at 195,000 for a three-year period, the population would reach a high of 710,000 in 2002 and would slowly decline to around 270,000 by the end of the decade.¹⁵

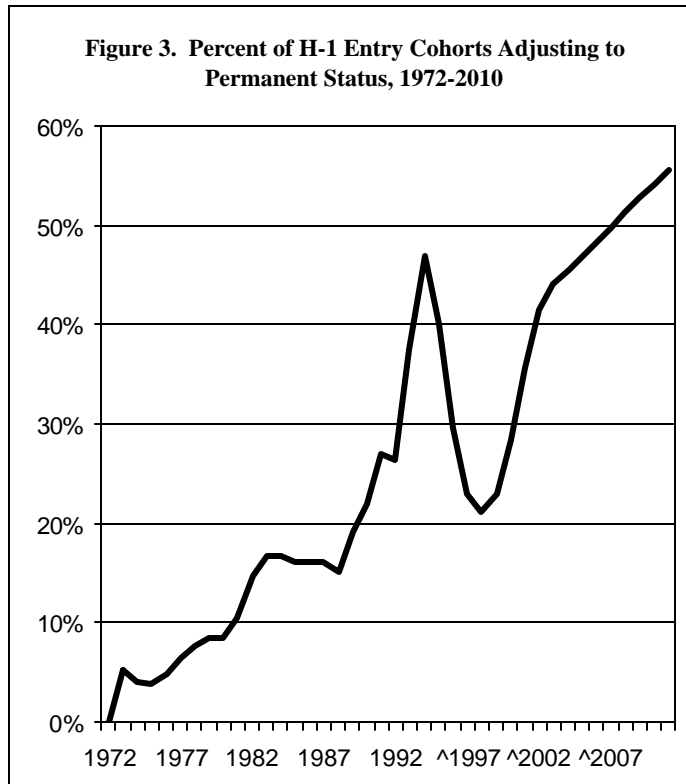
When will demand for H-1Bs decrease? Figure 2 also shows (dotted lines) the H-1B populations that would result from maintaining into the future either the current ACWIA cap or the Senate's ACTFCA cap. These workforce populations would be just more than 400,000 and 800,000 respectively. While these “what if” figures are not being actively discussed at this time, these forecasts show that significant and continued increases in the cap can create large H-1B workforce populations. In any event, these are rather large “temporary” populations and the pending legislation is a substantial increase in size over the current cap. These levels of H-1B admissions also create pressures on other parts of the immigration system.

The Percent who Adjust to Permanent Status.

We turn next to estimates of one of the main sources of “exits” from the incoming visa cohorts, e.g., shifts from temporary to permanent status are subtracted from entrants to yield the population estimates just discussed. The H-1B who adjusts to permanent (green card) status during their six-year stay is, obviously, no longer technically part of the temporary workforce. The percent of H-1Bs adjusting (rate) is a function of how many H-1Bs desire to adjust and how many are able to do so.

On the one hand, the size of the adjusting population is driven by the proportion of H-1Bs who desire and pursue permanent resident status. It can be anticipated that the share of H-1Bs who desire permanency has increased over time as the composition of H-1Bs reflects more distant countries, shifts in occupations such as entertainers to scientists and engineers, and new expectations conditioned by a visa that supports expectations of permanency.

¹⁵ If about 60 percent of H-1Bs are in information technology occupations, this would imply that current ACWIA caps would generate an IT workforce of about 276,000 in 2001. The proposed ACTFCA legislation would generate an IT workforce of at least 426,000 workers by 2002. Of course, the highly temporary nature of many H-1Bs and IT jobs means that a very much larger share of IT jobs would be filled under either scenario.



Further, nearly one-quarter of today's H-1Bs have changed from foreign student status (F visa) and have been in country for many years prior to the already lengthy six years permitted to the H-1B (INS 2000). This population has solid ties to the United States and equities that they wish to keep. And we know, for example, that about two-thirds of the foreign doctoral students express a desire to stay in the United States (Johnson and Regets 1998).¹⁶ A nonrandom membership survey of temporary visaholders indicates that over two-thirds are in the process of adjusting (CPEA 2000).

On the other hand, limitations on adjustment are set by caps on the number of permanent resident slots available, and large populations of H-1Bs will quickly exceed the numerical caps on the permanent system (notably the employment-based classes). Further

limitations on adjusters have to do with the ability of the government to process the paperwork for adjustment in a timely fashion. Long lead times to adjustment in excess of the duration of stay permitted on the H-1B visa will make it impossible for many H-1Bs, who would otherwise want to adjust, to do so. Figure 3 shows the cohort adjustment rates within the permitted period of stay that rose as expected from 5 percent of the entering H-1 cohort of 1972 to a high of 47 percent of the entering H-1B cohort of 1993. Estimated rates of adjustment then dip precipitously because of the long time it now takes for the government to process the paperwork required for adjustment. The longer the time to adjustment to permanent status, the greater the size of the prevailing H-1B workforce, and the fewer the number of H-1Bs who ultimately make it through the gauntlet to successfully adjust within their duration of stay.

As Figure 3 also shows, the estimated rates do indeed dip and then forecast rates begin to climb again. Perhaps no more than one-fifth of the 1996 to 1998 H-1B entry cohorts adjusted within their six-year duration of stay (taking a record average time to adjustment of 4.6 years). Because cohort adjustment percentages had been running more than twice as high in the three previous years, this suggests significant slowdowns in paperwork processing for the green cards. After a three-year lag, Figure 3 shows a forecast resumption of rates of adjustment extrapolated from the past and reaching just more than 50 percent by the end of the decade.¹⁷

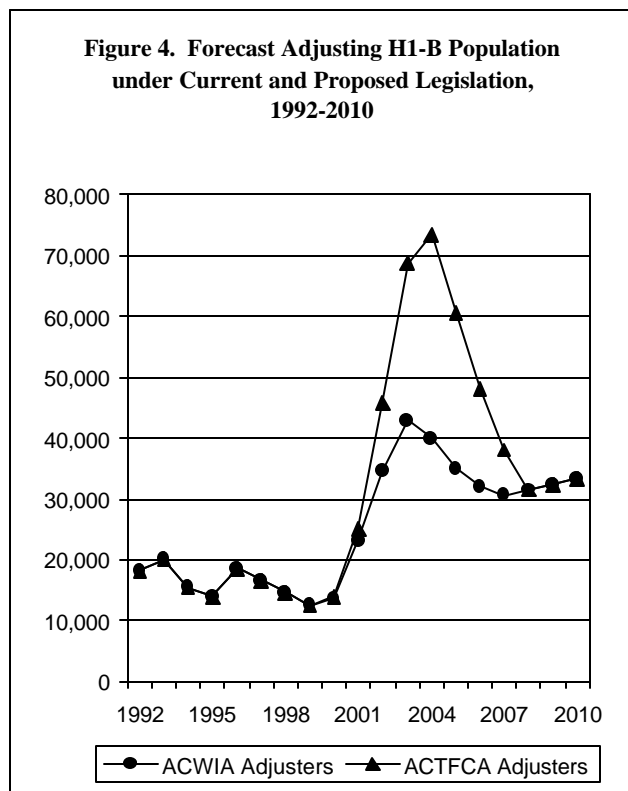
¹⁶ Interestingly, the 1993 National Science Foundation survey found that roughly two-thirds of doctoral students "desire to stay" and about two-thirds of these "have firm plans;" yielding an actual stay rate in the early 40 percent range and close to the cohort adjustment rates actually observed at that time.

¹⁷ To make estimates into the future, it is assumed that the procedural backlog clears slowly over a three period 2000 to 2002 (the time INS took to clear naturalization backlogs), and that by 2003 H-1Bs resume adjustment to permanent status at rates linearly extrapolated from the past. It is further assumed that no further permanent admission backlogs (caps) come into play that would, perforce, push back down adjustment rates. Thus, rates from 2003 onward are simple linear forecasts of the prevailing growth in year-to-year rates of adjustment as extrapolated from the past. If the forecast rates over state true adjustment, then the estimated population of adjusters is over stated, but the estimated H-1 population is understated.

The Number of Temporary to Permanent Adjusters.

The number of adjusters in the past is known and the estimated rates reflect the linear increase in the percentage of H-1Bs who desire permanent residency. The forecast rates presume a resumption of past behaviors and an immigration system that does not impede adjustment. Applying those forecast rates to the legislative caps on future H-1B admissions produces estimates of (potential) downstream adjusters. These figures can be compared to what it is believed the system will actually absorb.

As Figure 4 shows, large numbers of (potential) adjusters are created under either Act, hitting a high of 43,000 in 2003 under current ACWIA legislation; and 74,000 in 2004 under the proposed Senate bill (ACTFC). The proposed ACTFCA cap goes on to create (potential) adjustment numbers that range from 22 to 85 percent greater than the current ACWIA cap from 2004 through 2007. Once again, it is not known that these are figures on who will actually adjust. That is determined by the tension between procedural time frames and ceilings created by the permanent immigration admission system.



The Appendix describes an estimate of the likely number of H-1B adjusters that the permanent system will absorb which suggests that about 25,000 H-1Bs will actually adjust into the permanent system. That estimate presumes that the share of H-1Bs adjusters typical of post-IMMACT90 immigrant admissions holds into the future. It also assumes that all 140,000 employment-based slots are used and immediate family numbers grow. Clearly, the forecast (potential) number of adjusters exceeds the likely number of H-1B adjusters that the permanent system will absorb.

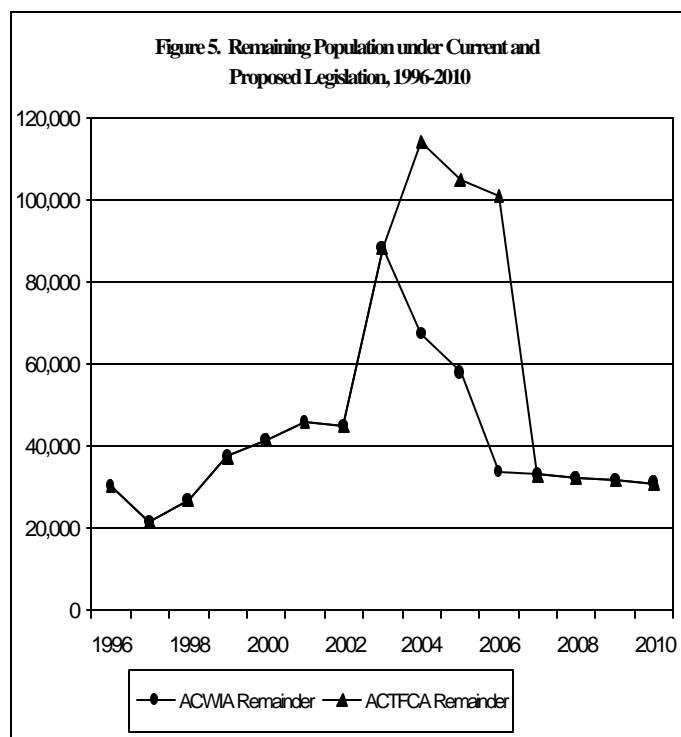
Why does such a low figure appear likely? In the first place around 20,000 H-1Bs numbered among permanent adjusters 1992-1996 when more than 100,000 employment-based immigrants were admitted yearly. This level reflects the fact that not all H-1Bs from all countries desire to adjust and that other temporary visa categories compete to enter the adjustment queue. As Table 3 above shows, countries such as the United Kingdom, Japan, France, and Germany, send stable numbers of H-1Bs year in and year out. These tend to be

truly temporary worker flows. And as the Appendix shows, there is no evidence that the ratio of H-1Bs to other adjusting nonimmigrants has been increasing (putting them disproportionately in the front of the adjustment queue).

What is more, per country caps on permanent admissions limit possible H-1B adjusters. The nationality groups that make up the largest share of H-1Bs—the Indians, Chinese, and Filipinos—are for the most part already at their per country maximum. Hence, the number of H-1B adjusters from other source countries is unlikely to increase and the system limits the number of adjusters among the predominant number of H-1B nationalities. Yes, there may be some upside to the likely number of H-1B

adjusters that this estimation cannot account for, but it appears that many, if not most, of the forecast H-1Bs who desire to adjust to permanent status will be frustrated by the realities of the immigration system.¹⁸

The Population Remaining at Visa End.



The final population estimate of interest generated by this model is that of the remaining population at the end of their stay as permitted on the H-1B visa. All of the above estimates assume that H-1Bs are part of a workforce population for a six-year period, with the exception of those who emigrate or adjust to permanent residency. In other words, almost all other H-1Bs who stay and work for a six-year period are assumed to emigrate when their visa expires (for at least one year prior to seeking reentry). But at the end of that sixth year, there is a population that must either emigrate or else fuel enforcement challenges to deal with those who would illegally overstay their visa.

The remaining population includes many individuals who emigrate home as stipulated in the terms of their visa, but also others for whom return is a more difficult choice. Recall that the estimates already subtract out a large (potential) legal adjuster population, but in the forecast of adjusters it was

surmised that the numbers exceed what the permanent system will likely absorb.¹⁹ In the scenario where they are not approved for adjustment prior to the end of their visa period, many forecast adjusters will ultimately fall into the remaining population making the estimates shown here too low.²⁰

¹⁸ It has been recommended that per country limits be lifted on the employment-based permanent admissions system. This might provide a short-term fix for nationality groups such as the Indian, Filipino and possibly even aid the Chinese. However, the magnitude of the forecast number of adjusters should make it evident that putting these groups first into the queue will create other problems, e.g., by displacing competing nationalities and classes of nonimmigrant adjusters. To say nothing of creating expectations among future H-1Bs that may not be sustainable given current permanent admission ceilings (or resummptions of per country limits).

¹⁹ Up through 1999 this estimate is based upon current permanent admission figures. Hence, some of the remaining population might have received approval for a permanent visa petition and are in queue in the extension-of-stay backlog where they will wait until a permanent visa can be formally granted. It is not known how many might end up waiting in the INS backlog for admission because the available data do not parse the adjustment backlogs. Best estimates place the total number of persons today who are waiting in the employment-based adjustment backlog between 125,000 and 200,000. If 20 percent of these were H-1B adjusters, then somewhere between 25,000 to 40,000 might actually be subtracted out from the cumulative remainder population of 246,000 in 1999 (see Appendix)

²⁰ Looking to the future, it would be irresponsible to plan to accommodate the magnitude of numbers forecast for extended stays in the limbo of the backlog for formal permanent admission which can take years.

As Figure 4 shows, the estimated remaining population ranges from 88,000 under current ACWIA caps in 2003, to a high of 114,000 under the proposed Senate bill ACTFCA in the year 2004. The estimated cumulative remainder population is nearing 287,000 (1992-2000). It would be imprudent to assume that all of these remaining individuals will become illegal visa overstayers. Note that the model estimates suggest that somewhere between four-tenths and half of an entering cohort are estimated to emigrate during their six-year period of stay. Many do and many, if not most, will leave as one would expect with a temporary visa. However; for reasons discussed above, especially for those who had sought and failed to adjust to permanent status, there are pressures to stay. And those who have remained all six-years have “voted with their feet” to stay. Some unknown percent of the remaining population will illegally over stay their visa period and become unauthorized residents for some period of time.²¹

Conclusiona

This set of estimates indicates that current levels of H-1B admissions generate a sizable population of temporary workers who, along with their employers, intend to convert their status to a permanent place in the United States. Increasing levels beyond today’s cap generates a significantly larger working population of would-be H-1B adjusters that will exceed the capacity of the permanent system. These numbers will disconnect the transition from temporary to permanent for large numbers of H-1B visaholders. The implicit promise of permanent immigration will be broken for the majority of H-1B workers.

Congress has altered the basic dynamic of the old H-1 visa as constructed in the Immigration Act of 1952. The removal of the requirement that employer intend that the job be a temporary one was removed in 1970. The requirement that the foreign worker intend to stay only temporarily was removed in the Immigration Act of 1990, that is the H-1B may have the dual intent of staying temporarily or permanently. That legislation also required employers to attest to working conditions and capped visa numbers.

Congress changed the basic dynamic of the old H-1 visa with the newly named H-1B program. The H-1B worker may intend to stay permanently and the evidence is that, if not all, at least the majority wish to do so. However, the H-1B program does not assure efficient transition to permanency, but rather it depends upon the procedures and numerical caps of the permanent admissions system. And these aspects of the permanent system do not function well in regard to the H-1B. In short, the H-1B program is neither fully a temporary program, nor is it a permanent visa program. By conflating temporary and permanent objectives, it accomplishes neither well.

The current system is already strained beyond its capacity. As Congress proposes to significantly increase the population of H-1Bs it will be increasing the number of would-be permanent immigrants. Yet, an immigration system that cannot handle the current volume is unlikely to become more efficient and the existing frustration of employers and foreign workers are most likely to compound as a result. Growing backlogs of H-1Bs in the queue for permanent admissions are one sure outcome, as are growing numbers of H-1Bs who had thought they could stay but are unable to legally do so. The system loses its transparency and will make one more promise to immigrants that it cannot keep.

²¹ Estimates by the INS for 1988 suggest a four percent overstay rate for related temporary visas. Clearly, that estimate would be too low given the history and composition of today’s H-1B population.

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