

## Estimating the Size of the H-1B Population in the U.S.

By David North

*Debate over the H-1B foreign worker program often focuses on the number of visas issued each year for one sub-category, 65,000. But that number, while accurate, is misleading; to understand the full impact of this, or any other, long-term non-immigrant program, we need to know not just the annual admissions — the “flow” — but also the “stock,” the number of people here in that status at any given time. There is no official estimate of the size of the total H-1B population; our estimate is 650,000 as of September 30, 2009, 10 times larger than the flow number usually referred to.*

One of the (many) problems with making immigration policy is the seldom-noticed fact that we have no idea of the size of the non-immigrant population — i.e., foreign citizens in the United States on some sort of temporary status — nor of its component parts, such as of foreign workers.

In sharp contrast, there are either good data or plausible estimates on the other three components of the foreign-born population: naturalized citizens, legal permanent residents, and illegal aliens.

In a few minutes at the computer I found these three estimates: naturalized citizens, 15.5 million (Census Bureau<sup>1</sup>), LPRs, 12.5 million (DHS<sup>2</sup>), and illegal aliens, 10.8 million (again DHS<sup>3</sup>). All the estimates are for 2009.

A government making decisions about millions of people needs to know how many millions it is dealing with, and it does with these three populations.

However, no government agency appears to be making estimates, much less counting the non-immigrants among us. Further, the Government Accountability Office (GAO), belying its very name, had a staff of 31 writing a report<sup>4</sup> on the controversial H-1B program for high-tech foreign workers, but did not even mention the size of the H-1B population, something I noted in a CIS blog.<sup>5</sup>

Unfortunately, with the non-immigrants, there are not only no population estimates for most of the various subpopulations but the debate about these groups is badly compromised by another, misleading set of numbers.

Let's look a little further at the H-1B foreign worker program. It is beloved by many U.S. employers who do not want to pay the prevailing wages for their programmers, for instance; by the government of India, because it provides profits to some of its richest corporations and employment for many of its college grads; and apparently by the government of the United States because it allows the program to steal hundreds of thousands of good U.S. jobs from available U.S. workers, particularly older ones (i.e., more than 35 years of age). Some people, needless to say, disagree with one or more of those characterizations.

Over and above the economic issues (just sketched) the H-1B program presents a conceptual/arithmetic problem as well. While I estimate later in this report that there are well over 600,000 aliens working in the United States because of this program, the number used in the debates about this program is typically 65,000.

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This number is both narrowly accurate and misleading. It is misleading because it suggests a small-sized program; it is accurate because that is one of the three annual allocations of new visas for the program. Using the 65,000 number in connection with the H-1B program is a little like considering life with an 800-pound gorilla by focusing instead on his birth weight of three or four pounds.

Congress cobbled together, with much help from industrial and academic lobbyists, three annual allocations of new H-1B visas (while not limiting renewals of visas already issued). There are to be 65,000 new visas for industry at the college-graduate level of skills, there are to be 20,000 more for high-tech workers with U.S. graduate degrees, and there are to be no limits at all for H-1B workers toiling at university addresses — not necessarily working for an academic institution, but simply working on campus. This year the 65,000 and the 20,000 limits have already been reached.

In order to get our collective arms around this and other foreign worker programs, we need to know how many foreign workers will be working alongside U.S. workers — or, as often happens, shouldering them aside. We need to know the numbers on the ground at any given time, not just the number of new ones that come through the office door — the *stock* as well as the *flow*, as a demographer might say.

Clearly there is a public need to know here, but not a corporate one. Maybe I am paranoid but I suspect that the reason why we do not know the numbers of this highly numerate population of scientists and engineers is because their bosses do not want the totals known.

The request for an estimate is not an unreasonable one. The DHS Office of Immigration Statistics gives us an estimate of the population of illegal aliens (“unauthorized immigrants” is their term) every year, and only a tiny segment of this population has relations with the U.S. government.

In contrast, there are thick layers of process statistics that deal with the H-1B population as it is issued initial visas, as it uses these visas to come to the United States, as it renews these visas, as many of the H-1B holders move onto other statuses, all the while generating loads of documentation. Granted, these data are not a clean-cut count of persons, like the Census does once every 10 years, but statisticians could easily mount an estimate of the population, as I attempt here in my own rough-and-ready way.

What is true of the H-1B program is equally true of all the other foreign worker programs that have proliferated over the years; there is need for estimates of the sizes of the populations of the H-2A farm workers, of the H-2B non-agricultural, non-skilled workers, of those F-1 foreign students who are allowed to work summers and after graduation. Similarly, we should know how many J-1 students and scholars are in the country — they are admitted even more casually than the H-1Bs; there is the small but virtually unmonitored religious worker program (R-1), and there are the nonimmigrant treaty investors and traders, (E-1s and E-2s), and on and on.

We need to know how many people at any one time are in the United States working in all of these programs, not just the numbers coming through our ports of entry. With that in mind I have, as a little demonstration, sought to estimate the number of H-1B workers in the American labor market at any given time. Just how I came up with my ballpark estimate of 650,000 H-1B workers is described below. (An earlier version of this estimate appeared as a CIS blog.)<sup>6</sup>

**Program Background.** Workers in the H-1B program are tied to their employers; and the employers must seek permission from the federal government to bring in workers in this status from overseas, or to adjust workers already in the United States from another status, usually that of an F-1 or J-1 student. Though the Labor Department and the State Department play a role in the program, the control of the numbers rests with U.S. Citizenship and Immigration Services, a component of the Department of Homeland Security.

The initial visas secured through this process are usually good for three years, and are renewable, routinely, for another three years. Further, a worker who has secured an approved petition for a labor certification, and thus

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potentially a green card, may extend his or her H-1B status beyond the six years, even though the approved petition is unlikely to produce an immigrant visa for many years. This happens because many H-1Bs who have an approved immigrant petition are from India and other nations where there are long backlogs of such approved petitions. These six-year-plus extensions are usually issued one year at a time.

In short, if an H-1B handles these opportunities well, the alien can stay in H-1B status until such time as he or she can adjust to permanent resident status. Though labeled a temporary visa, it can have all the characteristics of a permanent one.

Meanwhile, as the GAO explains at some length on pp. 30-36 of its recently released H-1B report,<sup>7</sup> the various government data systems dealing with the H-1B aliens do not mesh neatly, and hence the total number of people in H-1B status cannot be counted precisely. (References to page numbers in the report are to those in the printed report, not to the one on-line, which has a different pagination system.)

While the GAO publishes some recommendations in its report, it makes no effort to estimate the population of H-1Bs, nor does it recommend changes to the way the government handles its counting systems. Further, making it harder to make an estimate of the size of the population, its presentations on related matters are often stated in percentages or shown in charts, without noting the specific numbers. (See p. 12, for example.)

**Definition.** The objective of this exercise is to estimate the number of aliens who, having obtained H-1B status, were alive and in this nation, either in that status or in another legal status, on September 30, 2009. Given the three-year duration of most petitions, by September 30, 2009, everyone in legal status would have secured an approved petition at some time in the prior three years; further, no one who secured status before October 1, 2006 would still be in legal status unless a renewal had been secured.

## Estimating the Size of the H1-B Population on 9/30/09

This is a three-step process.

First, we estimate the gross size of the supply of approved petitions; second, we estimate the attrition caused along the way in the admissions process; and third, we estimate the percentage of those actually admitted who stop being legal workers in the United States, largely by leaving the nation.

**Step One: Approved Petitions.** The gross number of H-1B approvals (both initials and extensions) filed in Fiscal Years 2007, 2008, and 2009, is printed in an annual USCIS publication, “Characteristics of H-1B Specialty Occupation Workers: Fiscal Year 2009 Annual Report,”<sup>8</sup> p. ii, and in its FY 2008 predecessor. This provides us with the basic supply side numbers. (All data in this document are for fiscal years.)

That total is supplemented by an annual population of 12,000 according to a (probably conservative) USCIS estimate of pre-H-1B workers drawn from recent F-1 college graduates. The Bush administration, through a process I’ve described elsewhere,<sup>9</sup> made it possible for potential H-1B workers, without those visas, to work *as if they were* H-1B workers by extending their legal status to work derived from their earlier F-1 status. Since the population was created in April 2008, I calculate that after the passage of a year and a half, it would total 18,000 by the magic date, September 30, 2009. (This is a lot of explanation for 18,000 workers but these are complex processes.)

Here are the numbers for the first step:

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## Step One: Gross Supply Side H-1B Data

|   |                |
|---|----------------|
| 2007 approved petitions, new and renewed          | 281,444        |
| 2008 approved petitions, new and renewed          | 276,252        |
| 2009 approved petitions, new and renewed          | <u>214,271</u> |
| Total petitions approved                          | 771,967        |
| Estimate of OPT (F-1) workers                     | <u>18,000</u>  |
| Outer limit of H-1B supply (as of Sept. 30, 2009) | 789,967        |

**Step Two: Attrition within the Admissions Process.** The 789,967 number above is not a count of people, it is an estimate of the total number of approvals issued by USCIS. There are three types of attrition that occur at this stage of the process: some aliens are the subject of two or more approved petitions meaning that there are more approvals than aliens (something the government's statistical systems could handle, but do not); some applications approved by both USCIS and the State Department are not, in fact, used; and some H-1B petitions that have been accepted by USCIS are not approved by the State Department overseas (something that is recorded). In the latter instance, a consular officer may note, for instance, that the alien who has secured an approved petition does not, in fact, have the academic credentials claimed; hence an approved petition, but no visa for the alien.

It is necessary to estimate the first and second variables; the State Department's final refusal rate is calculated from this data set<sup>10</sup> and its successors.

## Step Two: H-1B Attrition within the Admissions Process

|   |                |
|---|----------------|
| Outer limit of H-1B supply                          | 789,967        |
| Multiple petition estimate, say 2 % of approvals    | -15,998        |
| Non-use of approvals estimate, say 1 % of approvals | -7,899         |
| State Dept. net refusals, 2007                      | -6,900         |
| State Dept. net refusals, 2008                      | -6,260         |
| State Dept. net refusals, 2009                      | <u>-3,386</u>  |
| Total for three years                               | -16,546        |
| Subtotal of the three attrition processes above     | <u>-40,443</u> |
| Number of H-1Bs after admissions-process attrition  | 749,524        |
| Rounded   | 750,000        |

**Step Three: Attrition after the Admissions Process.** The 750,000 number above is the estimated number of aliens who secured H-1B status during FYs 2007-2009. Some of them departed during that three-year period through returns home, a major factor, and through two other, statistically less significant ones, death in the United States and emigration to a third nation (such as Canada). While good age-specific death rate data are available for the population generally, the other two variables must be guesstimated.

H-1Bs are mostly under 35, we are told, so I used the average annual death rate<sup>11</sup> of 35-year-old Americans of both sexes and all races for that age group. That is 111 per 100,000; since the H-1Bs are above- average in income and

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in education, and rarely work in dangerous industries such as construction, agriculture, or mining, their death rates are probably below the average but I used the 111 rate anyway, and, for the three years collectively I got a rounded figure of 2,500.

At least one Canadian province, Alberta, has or had an arrangement to speed the admission of people with current H-1B approvals, and there was some use of this provision. Someone able to secure an H-1B in the United States could probably get a temporary work permit in other nations as well. I used a rough estimate of 1,000 aliens leaving H-1B status in this way. As to returns home, I estimated that 10 percent of the population of interest took this route. (This subgroup also includes a handful of H-1Bs who must drop into illegal status while staying in the United States.)

An additional element is the fact that a minority of the extensions are not for three years, but for a single year, as noted earlier. The numbers are not known. The factor does not apply either to the new arrivals or to those getting their first extension (of three years), but only to the minority who have been here for six years or more. I have made an allowance of 20,000 for this factor:

### **Step Three: H-1B Attrition after the Admissions Process**

|   |                |
|---|----------------|
| Estimated number of admitted H-1Bs              | 750,000        |
| Estimated deaths of those admitted              | -2,500         |
| Estimated departures for third countries        | -1,000         |
| Estimated returns to home countries, at 10 %    | -75,000        |
| Allowance for some one-year extensions          | <u>-20,000</u> |
| Totals of the above                             | 98,500         |
| Number of H-1B workers in U.S. on Sept. 30, '09 | 651,500        |
| Rounded   | 650,000        |

In addition to the arrival of H-1Bs, and their (much more limited) departures, there is a third process that needs to be mentioned, if not measured. Some H-1Bs every year adjust from H-1B to green card status, and a smaller number adjust from H-1B to other temporary worker statuses. (An H-1B moving from the payroll of Westinghouse to that of the World Bank would become a G-1, for example). We made no attempt to measure this population because the members of it remained legal workers in the United States, neither adding to, nor subtracting from, the population of interest.

The estimate above is just that, a combination of hard numbers, fairly hard numbers, and estimates. It is a shame that the GAO, with its remarkable intellectual and financial resources, did not conduct a similar exercise. I would welcome alternative estimates or comments at [snrascal@yahoo.com](mailto:snrascal@yahoo.com).

In the meantime, it is appropriate to think, and talk of the total population of 650,000 or so H-1B workers and not to dwell on the considerably less meaningful figure of 65,000 that is usually used by mass migration and industry advocates.

## End Notes

- <sup>1</sup> <http://www.census.gov/population/socdemo/foreign/cps2009/T1.2009.pdf>.
- <sup>2</sup> [http://www.dhs.gov/xlibrary/assets/statistics/publications/lpr\\_pe\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/lpr_pe_2009.pdf).
- <sup>3</sup> [http://www.dhs.gov/xlibrary/assets/statistics/publications/ois\\_ill\\_pe\\_2009.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2009.pdf).
- <sup>4</sup> <http://www.gao.gov/new.items/d1126.pdf>.
- <sup>5</sup> <http://www.cis.org/north/blandreviewofh1b>.
- <sup>6</sup> <http://www.cis.org/north/estimateH1Bpopulation>.
- <sup>7</sup> <http://www.gao.gov/new.items/d1126.pdf>.
- <sup>8</sup> <http://www.uscis.gov/USCIS/Resources/Reports%20and%20Studies/H-1B/h1b-fy-09-characteristics.pdf>.
- <sup>9</sup> <http://www.cis.org/north/OPTsocialsecurity>.
- <sup>10</sup> <http://travel.state.gov/pdf/FY2007.pdf>.
- <sup>11</sup> <http://www.disastercenter.com/cdc/Death%20rates%202005.html>.