

**IMMIGRATION AND STEM TALENT IN THE UNITED STATES:  
ESTIMATING THE SIZE OF THE PRE-LPR POPULATION**

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## **ABSTRACT**

Highly-skilled foreign-born persons make large, sometimes spectacular, contributions to the United States. However, although the United States warmly welcomes students and trainees and, less warmly, temporary workers such as H-1B workers, those who would like to make it their permanent home face an unwelcoming array of requirements, obstacles, and delays, often resulting in ineligibility for legal permanent residence (LPR) or discouragement with the visa process. Hence, there appears to be a large and increasing number of highly-skilled persons at various stages of the visa process. This paper reports new estimates of the number of persons waiting in line in the United States for legal permanent residence via the main three employment-based categories. As well, estimates are provided for those waiting abroad and for family members.

## 1. INTRODUCTION

Every year approximately one million persons are admitted to legal permanent residence (LPR) in the United States. Over half of them are already residing in the U.S. and adjust their status from a legal temporary visa or from undocumented status. For example, during the ten-year period from 1996 to 2005, the number of adjustees exceeded that of new arrivals in every year except three (1998, 1999, and 2003 -- years in which administrative and staffing conditions produced large backlogs in immigrant visa processing in offices of the INS and its successor agency CIS), and for the entire period, the proportion adjustee was 55.8 percent.

Until recently, little was known about the adjustee subset of new LPRs, and even less after 2002. Traditionally, the INS and, subsequently, USCIS published tabulations in the Statistical Yearbook which provided the immediately preceding nonimmigrant category of new adjustee LPRs and the year of admission to that nonimmigrant category (e.g., Tables 10 and 11 in the Statistical Yearbook of 2000). Fiscal Year 2002 was the last year for which the Yearbooks provided this information. Since then the Yearbook includes only the breakdown of adjustees and new arrivals for every immigrant visa category.

Fortuitously, the New Immigrant Survey, the first nationally representative longitudinal study of new legal immigrants (<http://nis.princeton.edu>), has collected extensive data on the immigrant cohort of 2003 – over 8500 main sampled adult immigrants were interviewed at on average four-and-a-half months after admission to LPR, and the second round of interviews began in June 2007. From these data we learn the following, for example:

1. For the 2003 cohort the average time to LPR since filing of the first application that started the visa process was 4.4 years (4.2 for adjustees and also for adjustee employment principals).
2. The process of applying for an LPR visa is sufficiently arduous that approximately 17.4% of new legal immigrants became depressed as a result of the visa process (18.7% of adjustees and 21.9% of adjustee employment principals).
3. 21.7% of new legal immigrants either plan to leave the U.S. or are uncertain

about remaining (34.5% of employment principals and also of adjustee employment principals).

Visa processing times have been increasing – due, it is thought, to twin causes: the increase in applications and the post-9/11 increase in background checks of applicants. These increases in visa processing times are distinct from the waiting times for numerically restricted visas, as will be discussed below. Concomitantly, the agencies involved have established aggressive plans to eliminate the ensuing backlogs. For example, the Department of Labor’s Employment and Training Administration, which adjudicates labor certification petitions, is scheduled to completely eliminate its backlog by the end of Fiscal Year 2007 (30 September 2007); and the INS/CIS had special funds to reduce backlogs during the five-year period FY 2002-2006, and in June 2007 adjudicated so many immigration applications that all employment-based visas for FY 2007 were used (Department of State 2007b).

Waiting for visa processing makes a stressful time even more stressful, notwithstanding the relief available to some of those waiting for their visas in the United States while in a nonimmigrant status, notably in the form of employment authorization and travel permission for both principals and accompanying spouses and children.

The question thus arises: How many persons are waiting to adjust to LPR in the United States? One important subset of what we may call the pre-LPR population involves immigrants in line for employment-based visas. Accordingly, the question addressed in this section is: How many employment principals are waiting to adjust to LPR in the United States? It is a pressing question and one for which there is no official answer, due apparently to technical constraints of the USCIS case processing system. As the CIS Ombudsman observed in the annual report to Congress, submitted in June (2007, p.13):

Failing to correct the system annually results in hundreds, if not thousands, of wasted hours by all levels of USCIS leadership in trying to account for an often asked question by Congress, the Ombudsman, stakeholders, and others: “Exactly how many

employment-based green card applications does the agency have pending?” USCIS still cannot answer that question today with certainty.

In order to correctly pose the question, and thus to make progress in answering it, it is important to distinguish between two elements in the wait for adjustment to LPR. The first involves availability of numerically limited visas; the total number of visas available annually to principals and family members in EB-1, EB-2, and EB-3 is approximately 120,120.<sup>1</sup> The second element involves processing delays at each step of the visa process – in processing the labor certification application (ETA 9089), the employer’s (or, in some cases, self-) petition for an alien worker (I-140), and the prospective immigrant’s application to adjust status (I-485).

The two are interrelated. As the State Department has been noting in its monthly Visa Bulletins since June 2004 (but see especially the issue for January 2005) and as the CIS Ombudsman has been discussing, clearing backlogs of the I-485 means that numerical caps are reached and employment visas are no longer available. Thus, prospective immigrants are stranded at the first or second step, unable to submit the I-485.

The impact of this intertwining of numerical limitations and visa processing is periodically felt – for example, in January 2005, when application cutoff dates of January 2002 were placed on the employment third preference category for nationals of China, India, and the Philippines, and most recently on 2 July 2007, when the State Department updated its previous Visa Bulletin for July and announced that all employment categories had become unavailable for the rest of the fiscal year (an announcement subsequently rescinded on 17 July, when the State Department and USCIS reinstated the original Visa Bulletin for July, in which all employment-based categories except the subcategory of the third preference for “other workers” are current,

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<sup>1</sup> More precisely, the total number of visas available annually in each of the three focal categories is 28.6% of the annual worldwide level, which is at least 140,000, plus any visas not used by EB-4 and EB-5.

and extended the filing period until 17 August).<sup>2</sup>

Notwithstanding their interrelatedness, it is of the utmost importance to distinguish between these two distinct elements of the wait for adjustment to LPR. Among other things, relief for the two is of very different kinds, as the numerical caps are governed by statute, while application processing is governed by agency management practices.

At the outset, it is also useful to note that the current immigration debate has popularized a false dichotomy between skilled immigrants and family immigrants. In practice, many skilled immigrants acquire LPR as family immigrants, especially as spouses of U.S. citizens, as will be discussed below. It is not unusual for a prospective employer, upon learning of the principal's marriage to a U.S. citizen, to suggest that he or she get the visa as a spouse rather than as an employee, for "the process is easier that way." Moreover, even skilled immigrants who immigrate as workers have spouses and children, not all of whom work. Further, note that U.S. citizens may be superior to employers in screening future citizens, as they are thinking of the long term rather than the short term (Jasso and Rosenzweig 1995).

In the following sections, we address the question of the size of the pre-LPR population, refine it, note special subgroups of interest, consider estimation strategies, and provide a numerical estimate.

## **2. PRELIMINARIES**

We focus on employment principals who are going through the visa process in the United States, specifically, on principals in the first, second, and third employment-based immigrant visa categories – EB-1, EB-2, and EB-3. In the rest of this paper, we refer to this set as "employment principals". For some purposes, the focus is on highly skilled employment-based immigrants, and this set consists of the employment principals, as just defined, minus the small subcategory

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<sup>2</sup> Of course, the impact of the numerical caps has long been felt in the family preference categories, where all categories have substantial backlogs and the extreme case is that of the 22-year wait for nationals of the Philippines in the category for siblings of U.S. citizens.

of EB-3 reserved for “other workers”. However, much of the available information that will be used for estimating the pre-LPR population pertains to the employment categories together and does not permit removing the “other workers”. Thus, we focus on the first, second, and third employment-based visa categories.<sup>3</sup>

The visa process lasts from the filing of the first application to the date of admission to LPR. In general, the priority date for the case is assigned based on the filing of the first application. For EB-2 and EB-3 cases, the first application is the Application for Permanent Employment Certification (ETA Form 9089, formerly Form 750), and for EB-1 cases, the first application is the Petition for Alien Worker (I-140). EB-2 and EB-3 cases file the I-140 after labor certification is obtained. Note that self-petition on the I-140 is permitted for one subcategory of EB-1 cases (the first of three subcategories, viz., those with “extraordinary ability in the sciences, arts, education, business, or athletics which has been demonstrated by sustained national or international acclaim and whose achievements have been recognized in the field through extensive documentation”) and one subset of EB-2 cases (those who obtain a national interest waiver).

Persons with temporary visas in the U.S. can file for adjustment of status if the visa for which they qualify is immediately available. In the employment sphere, this means that the visa category must be “current”, in State Department parlance. In this case, prospective immigrants submit the Application to Register Permanent Residence or Adjust Status (I-485).

The classical sequence of steps in the visa process for a prospective employment-based immigrant already in the United States was, first, file for labor certification (if needed); second, upon granting of labor certification, file the I-140; and third, upon approval of the I-140, file the I-485 for adjustment of status if a visa number is available (or as soon as it becomes available).

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<sup>3</sup> The fourth and fifth employment categories are not of interest here; the fourth is largely for ministers and other religious workers and the fifth for investors. Moreover, note that these categories are quite small. For example, in FY 2006, of the 159,081 immigrants admitted with employment visas, only 10,288 visas – or 6.5% – went to these categories.

However, for the past five years (since 31 July 2002) it has been permitted to file both the I-140 and the I-485 at the same time – a process known as concurrent filing – provided, of course, that a visa number is available.

It is illuminating to track the availability of employment-based visas. For example, in January 2007 EB-1 visas were current, EB-2 visas were current for everyone except nationals of China and India (whose cutoff dates were, respectively, 22 April 2005 and 8 January 2003), and EB-3 had cutoff dates in place worldwide. In July, EB-2 and EB-3 (excepting the “other workers” subcategory, which was unavailable) were made current worldwide. As explained by the State Department (2007a) in the Visa Bulletin for July, posted on 12 June,

This has been done in an effort to generate increased demand by Citizenship and Immigration Services (CIS) for adjustment of status cases, and to maximize number use under the annual numerical limit. However, all readers should be alert to the possibility that not all Employment preferences will remain Current for the remainder of the fiscal year. Should the rate of demand for numbers be very heavy in the coming months, it could become necessary to retrogress some cut-off dates for September, most likely for China-mainland born and India, but also possibly for Mexico and Philippines. Severe cut-off date retrogressions are likely to occur early in FY-2008.

But the “current” designation was short-lived. The State Department (2007b) issued an Update to the Visa Bulletin on 2 July stating that “sudden backlog reduction efforts by Citizenship and Immigration Services Offices during the past month have resulted in the use of almost 60,000 Employment numbers.” Thus, it was announced, all employment numbers have been used, the employment categories are no longer “current,” and prospective immigrants cannot submit the I-485 until the start of the next fiscal year on 1 October 2007. However, the State Department (2007c) and USCIS announced on 17 July that the rules in the original Visa Bulletin for July were being re-instated and extended the filing period until 17 August: The Visa Bulletin for August also said that after 17 August all employment-based categories would be unavailable



until the start of the new fiscal year.

The population of interest thus consists of persons in the United States for whom the labor certification or I-140 is filed, even if the visa is not currently available, plus persons filing to adjust their status. As mentioned above, the wait for the immigrant visa consists of two kinds of waiting times, the first pertaining to the wait for a numerically limited visa (i.e., a “visa number”) and the second pertaining to visa processing, which is associated with all three applications. It may happen that visa processing for the labor certification and the I-140 is completed before the visa number becomes available, and for such cases all the experience of visa processing delay pertains to the I-485. Alternatively, it may happen that a visa number is available but there are delays at each step, a delay for processing the labor certification and a subsequent delay in processing the I-140, which in this case can be filed concurrently with the I-485. We may call the first kind of waiting time the visa number time and the second kind the visa processing time.

Our objective then is to estimate the size of the population who (1) have a priority date, (2) are in line for a principal visa in EB-1, EB-2, or EB-3, and (3) are in the United States.

In principle, it would appear easy to construct an electronic data base with a record for each such person in the visa process, and to store all relevant information such as origin country, immigrant visa category, priority date, as has been proposed by the CIS Ombudsman (2007, p. 35). Indeed, any number of IT firms involved in the petitioning for workers could do it. But in practice there appear to be many obstacles. For example, in the ideal data base the units would be persons --prospective immigrants – but part of the immigrant visa system is based on applications, not on persons.<sup>4</sup>

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<sup>4</sup> For example, sometimes more than one application can be filed for the same person. In the labor certification process, although an employer can no longer file more than one application for the same beneficiary, it is still possible for two employers to file for the same beneficiary. It is also the case that more than one I-140 can be filed for the same beneficiary. And, finally, the same prospective immigrant may file more than one I-485. The most common case of multiple I-485s involves married couples in which each spouse is the principal on a separate application.

Additionally, while the labor certification and I-140 applications cover only principals, the I-485 covers both principals and family members. Further, the labor certification and I-140 cover applicants worldwide, while the I-485 covers only adjustment of status in the United States.

Notwithstanding these challenges, it is earnestly to be hoped that (1) the data systems improve so that the number of pending applications can be generated at the end of each fiscal year (if not the end of each quarter), separately by visa category and separately for principals and family members, and (2) the agencies publish the numbers pending. It would then become possible to compare the true numbers with the estimates we present below.

### **3. ESTIMATION STRATEGIES**

The basic premise for our estimation approach is a simple description of the population of interest, as follows: The population of employment principals who have a priority date and are waiting for LPR in the United States at any given point in time consists of six subsets:

1. Those with a pending labor certification.
2. Those whose labor certification has been approved but whose I-140 is not yet filed.
3. Those with a pending I-140 who have not filed the I-485 (in most cases, because a visa number is not available).
4. Those with a pending I-140 and a pending I-485.
5. Those with an approved I-140 who have not filed the I-485 (again, in most cases, because a visa number is not available).
6. Those with an approved I-140 and a pending I-485.

Direct figures on each of these subsets is in our view an appropriate goal for the data systems architects in the Departments of Labor, State, and Homeland Security. For example, the State Department provided for many years counts of approved eligible prospective immigrants waiting for numerically limited visas. Such counts could be used to approximate the fifth subset. Unfortunately, however, the State Department discontinued publication of these figures after

1997 (it is not known whether the data continue to be compiled annually).

Note that at each of the three steps (labor certification, I-140, I-485), some applications are denied. Thus, a fraction of the first subset disappear, as does a fraction of the third and fourth subsets. Similarly, not all of the sixth subset will proceed to LPR, as some will have their I-485 applications denied. Moreover, a prospective immigrant may also leave the employment-based pre-LPR queue if, for example, marriage to a U.S. citizen provides a faster route to LPR.

To develop an estimation strategy, we list in Table 1 the six subsets and examine four potential sources of information. The first piece of information is the number of pending labor certifications. This obviously exactly corresponds to the first subset, as indicated by the checkmark. The second is the number of pending I-140 applications. This corresponds to the combined third and fourth subsets of the population. The third, the number of pending I-485 applications, corresponds to the combined fourth and sixth subsets. Finally, the number of approved I-140s corresponds to the combined fifth and sixth subsets.<sup>5</sup>

– Table 1 about here –

The three rightmost columns of Table 1 present alternative estimation strategies. We make the simplifying assumption that there are no multiple filings. Accordingly, an individual can be found in only one of the six subsets. In the table, one checkmark denotes that the subset is represented, and two checkmarks indicate double-counting of the subset.

We now turn to examine three possible estimation strategies. First, however, we note that there does not seem to be any information on the second subset – those whose labor certification has been approved but whose I-140 is not yet filed. This subset is likely to be small, as most visa applicants (or their petitioners) are thought to file the I-140 as soon as the labor certification is obtained.

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<sup>5</sup> Note that the labor certification application and the I-140 pertain to principals, while the I-485 pertains to all prospective immigrants, including the spouses and children of the principals. Thus, figures on I-485 applications must be deflated before use in estimating the population of pre-LPR principals.

Of course, the sources of information have to be adjusted appropriately so that they pertain to our population of interest. Specifically, the labor certification and I-140 figures have to be deflated for non-U.S.-resident applicants, and the I-485 figures have to be deflated for nonprincipals.

Estimation using the pending labor certifications and pending I-485s. Suppose we sum, on the same day, the pending labor certification applications and the pending I-485 applications, appropriately deflated for non-U.S.-residents and nonprincipals, respectively. This procedure misses the third and fifth subsets: nonconcurrent filers, whose I-140 may be pending or approved and who have not yet submitted the I-485. Thus, this procedure produces an underestimate of principals waiting for adjudication of their applications for employment-based visas.

Estimation using the pending labor certifications, pending I-140s, and pending I-485s. Suppose we sum, again on the same day, the pending labor certification applications, the pending I-140 applications, and the pending I-485 applications, all appropriately deflated, the first two for non-U.S.-residents and the last for nonprincipals. As shown in Table 1, this procedure double-counts the fourth subset (concurrent filers whose I-140 and I-485 are both pending) and misses the fifth subset (those whose I-140 is approved and have not filed the I-485).

Estimation using the pending labor certifications, pending I-140s, and approved I-140s. Here we sum, again on the same day and appropriately deflated, the pending labor certification applications, the pending I-140 applications, and the number of persons with approved I-140s who have not yet filed the I-485 or whose I-485 is pending. This procedure, as shown in Table 1, captures five of the six subsets and does not double-count any subset. It thus appears to be the procedure of choice.

All three estimates represent the set waiting for adjudication of their petitions and applications. Of course, as noted above, not all petitions or applications are approved. Denial rates vary across petition/application type and over time. For labor certification applications in the new automated case processing system (PERM), the denial rate in the period from 28 March 2005 to 1 June 2007 was 20%; during FY 2006, the denial rate was 21.5%. For the I-140, the

denial rate was 7% in FY 1992, subsequently increased to 17% in FY 1998 and to 28% in FY 2002, and has declined since then, to 21% in FY 2004 and FY2005 and to 16% in FY 2006. Denial rates for the I-485 pertain to all adjustees, so that denial rates for employment-based applicants are not known. For the entire set of I-485s, the denial rate was 4% in FY 1992, subsequently increased to 20% in FY 2003, and has declined since then, to 16% in FY 2005 and to 17% in FY 2006. Thus, the number of employment principal LPR applicants in the United States who will in fact be admitted to LPR is smaller than the number awaiting adjudication. Put differently, the number of future LPRs is smaller than the number in the pre-LPR queue.<sup>6</sup>

Finally, note that other estimation strategies are possible. For example, if the State Department reinstated the annual count of approved applicants waiting for numerically limited visas and if USCIS generated the pending totals for the I-485 separately by visa category, these two sets of figures could be used to estimate the fifth and sixth subsets (see Table 1). These estimates could then be compared with those obtained below.

#### **4. NUMERICAL APPROXIMATIONS**

The preferred strategy for estimating the number of employment-based principals who have a priority date and are in the United States waiting for LPR (rightmost column of Table 1) has three components: (1) the number of pending labor certification applications; (2) the number of pending I-140 applications; and (3) the number of persons with approved I-140 applications whose I-485 is unfiled or pending. To implement this estimation strategy we estimate the three components for the same time period and, because the three components pertain to both adjustees and new arrivals we then remove the new arrivals.<sup>7</sup> Finally, we also estimate the total number in

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<sup>6</sup> Denial rates for the I-140 and the I-485 are from the CIS PAS system, as reported in CIS Ombudsman (2007:113-114). Denial rates for the labor certification are drawn from DOL (2007) and calculated from the data set of completed PERM applications for FY 2006 (microdata available for download on the web).

<sup>7</sup> Note, however, that some new arrivals are persons who are living in the United States and choose consular processing over CIS processing (a choice made on the I-140 form but not a

the employment-based pre-LPR population including family members.

As will be seen below, estimation of the number of persons with approved I-140 applications who are in the population requires information on the number who actually are admitted to LPR each year. This information is published annually by the INS/CIS. Information on both pending and approved I-140s is available from the USCIS Performance Analysis System (PAS) and published in the CIS Ombudsman's (2007:113-114) report. As of this writing, the PAS data and the LPR data are available through Fiscal Year 2006. Accordingly, we estimate the employment-based pre-LPR population as of the end of FY 2006. We had hoped to locate a parallel time series for the pending labor certifications, but, as will be seen, even estimating the number as of the end of FY 2006 is a challenge.

#### **4.1. Components of the Estimates**

Labor certification pending applications. The number of pending labor certification applications has two components, the first pertaining to pending applications in the pre-automated backlog and the second pertaining to pending applications in the automated PERM system.

To estimate the first component, we use two pieces of information. First, the Department of Labor's PART assessments which accompanied the FY 2006 budget published in February 2005 mention a backlog of 315,000 cases and the goal to eliminate the backlog in two years, or by the end of FY 2007. Second, DOL's annual report for FY 2006 states in the "Performance and Accountability Report" that "Backlog Elimination Centers eliminated over 50% of the permanent program backlog three weeks ahead of the September 30, 2006 goal." Accordingly, we estimate the number pending in the pre-PERM backlog at the end of FY 2006 at half of 315,000, or 157,500.

To estimate the second component, we examine production statistics from the Department of Labor. The automated PERM system started on 28 March 2005. We use two

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permanently binding choice).

pieces of information. First, the total number of applications filed at three points in time were: 80,272 as of 17 March 2006; 182,411 as of 2 March 2007; and 204,280 as of 1 June 2007. Second, the number pending was 10,561 on 2 March 2007 and 16,799 on 1 June 2007. If the number pending at the end of FY 2006 resembles the number pending 5-8 months later, it would be in the range 10-17 thousand. On the other hand, if the number pending at the end of FY 2006 met but did not exceed the target of a six-month processing cycle for 90% of receipts, then it would be in the range 45-52 thousand.

Given the uncertainty and the recurring idea that the number of pending cases is decreasing, we fix the number pending at the end of FY 2006 at 42,500.

Accordingly, we put the number of labor certification applications pending at the end of FY 2006 at a round 200,000.

I-140 pending applications. The USCIS Performance Analysis System (PAS) provides a time series of the number of pending I-140 applications at the end of each fiscal year since 1992 (when the provisions of the Immigration Act of 1990 took effect). This time series, along with other PAS figures, is published in CIS Ombudsman (1970, pp. 113-114). Figure 1 depicts the pending I-140 applications for the years 1992 to 2006. As shown, the number pending at the end of the fiscal year began its steep climb after 1997, and since 2002 reflects the two countervailing forces of aggressive backlog reduction and increased demand.

– Figure 1 about here –

The number of pending I-140 applications at the end of FY 2006, as shown on Figure 1, is 50,132. This number represents the combined third and fourth subsets of the pre-LPR population, as shown in Table 1.

Persons with approved I-140 applications and unfiled or pending I-485 applications. The number of persons, at the end of a fiscal year, with approved I-140 applications who either have not yet filed the I-485 (presumably because a visa number is not available) or whose I-485 is pending is equal to the number at the start of the year plus the number of new I-140 approvals during the year minus the number who became LPR or left the LPR queue (because they died,

became discouraged by the wait, or achieved LPR by another route).

As noted above, new I-140 approvals are reported by the PAS system, and new LPRs are reported annually by CIS. The PAS figures cover all I-140s, and thus to match exactly to the LPR figures, we include in the LPR figures all visa categories which require an I-140. The number of deaths is likely to be small, as this is a prime-age and healthy population. There is no information on the number who get discouraged waiting for a visa number and leave the queue – though there is plenty of anecdotal information to that effect – nor is there information on the number who switch pathways to LPR – though again the anecdotal evidence is that courtship and marriage sometimes outpace visa number availability.

Additionally, the number of principals with approved I-140 applications at the start of the first year – 1992 – has to be estimated.

Accordingly, our procedure for estimating the number of principals with approved I-140 applications and either unfiled or pending I-485s has three steps. First, we calculate for each year in the period 1992-2006 the number of new approved I-140 petitions minus the number of new LPR principals in EB-1, EB-2, and EB-3 for whom the I-140 is required. Second, we estimate the number at the start of the period. Third, we generate a running sum of the number of new approved I-140s minus new LPRs, taking into account the estimate for the start of the period. Fourth, we examine the time series with an eye to adjusting it for the unmeasured departures from the LPR queue.

To implement the second step, we rely on the annual visa waiting lists published by the State Department until 1997. In the context of employment-based visas, the waiting lists cover all principals worldwide with approved I-140 petitions who have not filed the I-485 because a visa number is not available plus their spouses and children, as of the first of each calendar year (i.e., the fifth subset in Table 1). Accordingly, we use the visa waiting list figures for January 1992 – three months after the start of FY 1992. The visa queues were: EB-1, 535; EB-2, 32,452; EB-3 skilled, 50,003; and EB-3, “other workers”, 87,806. To deflate these figures for nonprincipals, we calculate for each category/subcategory the ratio of family members to



principals among new LPRs in FY 1992: EB-1, 1.69; EB-2, 1.12; EB-3 skilled, 1.35; and EB-3 “other workers”, 1.40. This procedure yields an estimate of 73,394 principals with approved I-140s who had not filed for the I-485 in January 1992. The number of principals with approved I-140s and pending I-485s at the start of FY 1992 is left unmeasured; it is likely to have been small, as immigration and consular officers expanded their efforts to clear applications under the pre-1992 immigration law (U.S. Department of State 1992).

At the third step, we calculate the running sum of approved I-140s minus LPRs plus the initial number at the start of the period (73,394). Figure 2 depicts the time series of the number of persons with approved I-140 applications who have not filed the I-485 or whose I-485 is pending. As shown, except for a dip in 2005, the number has increased steadily since 1992. At the end of FY 2006, the number of employment principals with approved I-140 applications and unfiled or pending I-485s is estimated at 327,556.<sup>8</sup>

– Figure 2 about here –

At the fourth step, we examine the time series depicted in Figure 2 and consider whether it should be adjusted downward to reflect the unmeasured departures from the LPR queue. As discussed above, departures would be in the form of deaths (likely to be negligible), persons discouraged by the long wait, and immigrants switching visa category. The visa waiting lists compiled annually by the State Department in the period 1992-1997 (none was compiled for 1996) indicate that the number of “other workers” and their families with approved I-140s and waiting for numerically limited visas was 87,806 in 1992, climbed to 95,362 in 1993, and subsequently decreased steeply, to 78,946 in 1995 and to 21,834 in 1997. These were years when the ceiling for this category was 10,000 and the average number of LPRs was 9,454. As noted in the visa waiting list (State Department 1997), “The Other Worker applicant total has

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<sup>8</sup> If we omit the number at the start of the period, the running sum at the end of FY 2006 is equal to the sum of all approved I-140s over the 15-year period minus the sum of all the employment principal LPRs during the period (254,162). Of course, this number plus 73,394 equals the adjusted estimate of 327,556.

dropped considerably over the past year, perhaps because the long (currently about seven year) wait for a visa has helped to discourage new cases and has given persons previously registered time to reconsider their employment and immigration plans.” Moreover, the number of LPRs in the “other workers” subcategory of EB-3 declined further after 1997, reaching 5,001 in 1999 and never again going above 5,000 – due to the new provision of immigration law by which a portion of legalizations under NACARA would be offset by taking numbers from this subcategory.

Thus, a nontrivial number of prospective immigrants in the EB-3 “other worker” subcategory disappeared from the employment-based LPR queue. Where did they go? Jasso, Rosenzweig, and Smith (2000) show how immigrants switch categories when it proves advantageous. In this case, some applicants may have immigrated via the Nicaraguan Adjustment and Central American Relief Act of 1997 (NACARA) or by marrying a U.S. citizen. Accordingly, our estimate of the employment pre-LPR queue needs to be adjusted downwards. If the ceiling of 10,000 was reached each year, the unexplained decrease between 1994 and 1997 was 42,514, reflecting approximately 17,733 principals.

Accordingly, we adjust our initial estimate of 327,556 employment principals with approved I-140 applications and unfiled or pending I-485s at the end of FY 2006 downward to 309,823. This number represents the combined fifth and sixth subsets of the pre-LPR population, as shown in Table 1.<sup>9</sup> Figure 3 shows the adjusted time series.

– Figure 3 about here –

#### **4.2. Numerical Approximation of the Employment-Based Pre-LPR Population**

In the preceding section, we presented estimates of each of three components used in the preferred estimation strategy described earlier (shown in the rightmost column of Table 1). We now sum the three components to obtain the worldwide estimate for the end of FY 2006: 200,000 with pending labor certifications (the first subset) plus 50,132 with pending I-140

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<sup>9</sup> If the unexplained decrease is based on actual LPRs rather than the ceiling of 10,000, the unexplained decrease totals 18,098 principals, which differs only trivially from the 17,733 calculated above.

applications (the third and fourth subsets) plus 309,823 with approved I-140 applications and unfiled or pending I-485 applications (the fifth and sixth subsets) equals 559,955. Next we deflate this figure for new arrivals. In 2005 the proportion adjustee was approximately 89.3. Applying this figure, we obtain an estimate of the number of employment-based principals waiting for LPR in the United States of approximately 500,040.

As discussed above, we do not have a time series of pending labor certifications. Accordingly, we show in Figure 4 the combined pending and approved I-140 subsets of the pre-LPR population.

– Figure 4 about here –

To estimate the total number of employment-based prospective immigrants waiting for LPR in the United States, we inflate for family members. In FY 2005 the ratio of nonprincipals to principals among employment-based adjustees was 1.11. Using this ratio, we obtain an estimate of the entire employment-based LPR queue in the United States of 1,055,084.

The corresponding estimate for the worldwide total is 1,181,505.

Table 2 summarizes our estimates for the employment-based pre-LPR population, as of the end of FY 2006. The table provides a handy way to see at a glance the number of employment-based persons in the pre-LPR queue, with or without family members and whether living in the United States or abroad.

– Table 2 about here --

Reviewing the principal features of these estimates, there are several things to note. First, the estimates assume that there is no double filing of applications. Second, they leave unmeasured the subset with an approved labor certification application who have not yet filed the I-140 and the number who die while in the queue, which may offset each other. Third, the estimates also leave unmeasured the fraction who may have left the queue after 1997, either because they were discouraged or because they switched pathways to LPR. Fourth, the estimates of the U.S.-resident pre-LPR queue are based on adjustees, but in fact some new arrivals are actually living in the United States and choose consular processing for their immigration case.

Fifth, at each of the three steps in the employment-based LPR process there are denials, so that the number of future LPRs is less than the number in the pre-LPR queue.

Finally, we note that these estimates can be updated as soon as information becomes available for FY 2007. And we note again that alternative procedures for estimating one or more of the subsets of the pre-LPR population may become available.

## **5. DISCUSSION**

### **5.1. Visa Number Wait and Visa Processing Wait**

Our estimates indicate that it is a safe bet that on 1 October 2006 there were about half a million prospective immigrants in the United States waiting to adjust to LPR as employment-based principals and that the total including family members was over a million. Even if these estimates turn out to overstate the employment-based pre-LPR population in the United States, they probably do not overstate the employment-based pre-LPR population worldwide. Thus, there were over a million persons in line for approximately 120,120 visas a year – implying that we had already mortgaged almost nine years' worth of employment visas. If all visa processing backlogs were eliminated, approximately 120,120 persons would receive EB-1, EB-2, and EB-3 visas within a year. The others would experience visa number wait. Those who had filed the I-485 before the processing backlogs were eliminated would be in a kind of semi-halcyon time. They would now have a long wait to LPR, but they would retain their employment authorization and travel benefits, based on pending adjustment of status. Those who had not filed the I-485 would have to continue to rely on a succession of temporary work visas.

At this very moment, we are seeing this situation develop. As of 17 August 2007, all available employment visas for FY 2007 have been given out. No one may file a new I-485. Thus, there are prospective immigrants waiting for adjudication of I-485s as well as prospective immigrants with priority dates who are stranded at the I-140 stage because there are not enough employment-based visas. And none of these can make the transition to LPR no matter how efficient the Department of Labor and USCIS were to become at visa processing. Put differently,

relief would come, not from more backlog elimination and timely processing at DOL and USCIS, but rather from larger allotments of employment visas – something which only Congress can provide.

## **5.2. Becoming an LPR**

An important feature of immigration to the United States is that many skilled immigrants acquire legal permanent residence with visas other than employment visas. Table 3 reports the major immigrant visa categories for three subsets of the adult immigrants in the New Immigrant Survey, those adjusting from an H-1B visa, those adjusting from an F1 visa, and those who report ever having an F1 visa or having a student visa.<sup>10</sup>

– Table 3 about here –

As shown, the employment visa categories are the dominant pathway to LPR for the subset adjusting from H-1B visas, a total of over 69%. However, the dominant pathway to LPR for those adjusting from F1 or who were ever F1 is the spouse-of-US-citizen visa, with 79% of the F1 adjustees and 59% of those who were ever F1s using this visa. These figures suggest that international students are attractive marriage prospects and thus have other avenues for remaining in the United States than employment visas.<sup>11</sup>

It is also of interest to examine the nonimmigrant origins of the employment principals, approximately 70% of whom are adjustees. Table 4 reports the major nonimmigrant visa categories for the adjustee employment principals (excluding the “other worker” subcategory) and, for contrast, the adjustee spouses of U.S. citizens (who are 76% of all spouses of U.S. citizens). It is no surprise that the largest nonimmigrant category for EB-1 consists of L1 intracompany transferees (49%), followed by H-1B (28%) or that the largest nonimmigrant visa

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<sup>10</sup> The New Immigrant Survey oversampled employment-based principals and undersampled spouses of U.S. citizens. Thus, the figures in Tables 1 and 2 are based on a larger number of cases than would appear based on the proportions in the cohort.

<sup>11</sup> All the EB-3 principals in Table 3 are in the skilled subcategory. That is, among the new immigrants adjusting from F1 or H-1B or who were ever an international student, none are admitted to LPR with an EB-3 “other workers” visa.

category for EB-2 and EB-3 is H-1B (89% and 50%, respectively). What is, however, of some interest is the other nonimmigrant origins of the EB-3 set. This group has almost 6% who entered without inspection – that is, they had no visas and crossed the border between ports of entry – not too dissimilar from the 7.4% among spouses of U.S. citizens. Moreover, the EB-3 subset includes almost 11% adjusting from a tourist visa, which raises the question whether they had overstayed that visa or worked without authorization (among spouses of U.S. citizens the comparable figure is 25%). Finally, there are the proportions in the two questionable nonimmigrant visa categories, “visa unknown” and “visa missing”; it is sometimes thought that the “visa unknown” code is a euphemism for a nonexistent visa, that is, for EWI; and “visa missing” may point in the same direction. Note, for example, that the EB-1 and EB-2 immigrants, who have negligible EWI backgrounds (zero in the case of EB-1), have small “visa missing” contingents, both hovering about 5%. In contrast, the EB-3 immigrants, who have a nontrivial EWI contingent, also have almost 17% in the “visa missing” category, not too far behind spouses of U.S. citizens, 24% of whom are in the “visa missing” category.

– Table 4 about here –

Some commentators suggest that the immigration system is so arduous and uncertain, even for skilled immigrants, that they run the risk of lapsing into illegality. These data hint about that possibility. And the information on having become depressed because of the visa process is not inconsistent with that supposition: the proportions of adjustee principals who became depressed line up with the employment-based categories – 17.3% in EB-1, 21.7% in EB-2, and 24.4% in EB-3.

Finally, some commentators suggest that a portion of the demand for employment-based visas is generated by the ban on employment for spouses of H temporary workers. That is, employment-based principals adjusting from H worker visas may not intend to live permanently in the United States but instead may desire to obtain work authorization for their spouses. If that is the case, then the three employment categories, which differ greatly in the proportions adjusting from H-1B (Table 4), should also differ in the intention to stay in the United States.

Indeed, EB-2, which has the highest proportion adjusting from H-1B (89%), has the lowest proportion who intend to stay in the United States – 48.8%. In EB-1 and EB-2, the proportions intending to stay are 60% and 73%, respectively. These figures contrast with 76% among adjustee spouses of U.S. citizens and 86% among all other adult adjustee immigrants.

## **6. FINAL REMARKS**

Our main purpose has been to estimate the size of the U.S.-resident employment-based pre-LPR population. To that end we developed a procedure based on estimation of six subsets of the population and approximated five of the six subsets. Our estimates are both a starting point and an end point. They are a starting point because new estimates can be obtained whenever new data become available – for example, at the end of FY 2007 – and because novel ways of estimating the subsets may emerge. They are an end point because advances in the data systems of the Department of Labor and the Department of Homeland Security – together with transparent publication of statistics – may render estimation exercises unnecessary.

Our estimates indicate that as of the end of FY 2006 there were about half a million employment-based principals awaiting LPR in the United States, and over half a million family members. These numbers suggest that what been seen as a visa processing problem is actually – and formidably – a visa number problem. The approximately 120,120 visas available annually are no match for a million persons in line.

Meanwhile, all who work to advance scientific understanding of migration and enlightened policymaking may want to collect items large and small for public discussion. For example, there is no substitute for good data systems that provide “we the people” with the information necessary to make intelligent decisions; it is a mystery that in the recent immigration discussion minds seemed to be formed without knowledge of even the number of persons with applications of different types pending. Similarly, it might be useful to consider letting some of the time spent waiting for a visa number or for visa processing count toward naturalization – there is a precedent in refugee procedures, and it could be a way of saying to visa applicants that

the long wait has not been in vain. With respect to assessing the contributions of foreign-born, it might be useful for the great science and humanities foundations, as well as the Patent Office, to consider collecting data on nativity, because otherwise the contributions of naturalized immigrants cannot be ascertained.



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**Table 1. Six Subsets of the Pre-LPR Population, Four Information Sources, and Three Estimation Strategies**

Subsets of Pre-LPR Population	Sources of Information				Estimation Strategies		
	(1) Labor Cert Pending	(2) I-140 Pending	(3) I-485 Pending	(4) I-140 Approved	(1) + (3)	(1) + (2) + (3)	(1) + (2) + (4)
1. Labor certification pending	✓				✓	✓	✓
2. Labor certification approved; I-140 not yet filed							
3. I-140 pending; I-485 not yet filed		✓				✓	✓
4. I-140 pending; I-485 pending		✓	✓		✓	✓✓	✓
5. I-140 approved; I-485 not yet filed				✓			✓
6. I-140 approved; I-485 pending			✓	✓	✓	✓	✓

*Notes:* The second, third, and fourth sources of information each capture two subsets of the pre-LPR population but cannot distinguish between them. Information on pending labor certifications pertains to employment principals in EB-2 and EB-3. Information on pending and approved I-140s pertains to employment principals in EB-1, EB-2, and EB-3. Information on pending I-485s pertains to all prospective immigrants (both principals and family members) in both employment- and family-based visa categories. The I-140 and I-485 information is available for each year since 1992 from the USCIS Performance Analysis System (Ombudsman 2007:113-114). Information on the I-140 and I-485 pending applications is as of the end of the fiscal year; information on I-140 approvals pertains to approvals during the fiscal year. Thus, the fifth and sixth subsets cannot be approximated solely from the I-140 approval information but require building up the stock of persons with approved I-140s who either have not filed the I-485 or whose I-485 is pending.

**Table 2. Estimated Employment-Based Pre-LPR Population at the End of FY 2006**

	<b>Resident in the U.S.</b>	<b>Resident Abroad</b>	<b>Worldwide</b>
Principals	500,040	59,915	559,955
Family Members	555,044	66,506	621,550
Total	1,055,084	126,421	1,181,505

*Notes:* As described in the text, summing the estimates of the pending labor certifications, the pending I-140 applications, and the approved I-140 applications with unfiled or pending I-485s yields the worldwide estimate of principals: 559,955. Using the FY 2005 proportion adjustee (89.3%) yields the estimates of principals resident in the United States and resident abroad. Using the FY 2005 ratio of nonprincipals to principals among employment-based adjustees (1.11) yields the estimates of family members and hence the total estimates.

**Table 3. Immigrant Visa Categories of Former F1 Students and H-1B Temporary Workers: Immigrant Cohort of 2003**

<b>Immigrant Visa Category</b>	<b>Adjusting from H-1B</b>	<b>Adjusting from F1</b>	<b>Ever F1</b>
EB-1 principal	4.62	.17	1.92
EB-2 principal	28.0	.32	7.46
EB-3 principal	36.8	2.74	8.17
Spouse of U.S. citizen	19.2	78.9	59.1
Other	11.4	17.8	23.3
Percent of cohort	2.77	1.63	5.58

*Notes:* Columns sum to 100 percent. The “Ever F1” column includes both adjustees and new arrivals, and thus includes those shown in the “Ever F1” column. The “Ever F1” set also includes respondents who provided only a generic response, such as “international student,” which could not be disaggregated into academic and vocational students.

**Table 4. Immediately Previous Nonimmigrant Visas of Immigrants Adjusting as Employment Principals or Spouses of U.S. Citizens: Immigrant Cohort of 2003**

<b>Nonimmigrant Visa</b>	<b>EB-1</b>	<b>EB-2</b>	<b>EB-3</b>	<b>All Emp Principals</b>	<b>Spouses of U.S. Citizens</b>
B2 visitor	1.71	0	10.7	6.63	25.0
F1 student	.53	.53	2.0	1.41	4.98
H-1B worker	27.8	89.0	49.5	56.8	2.06
L1 transferee	48.9	.29	.59	7.3	.48
O1 worker	6.99	0	.31	1.17	.09
Other visa	6.99	1.84	8.11	7.21	15.9
EWI	0	.42	5.91	3.64	7.41
Visa unknown	1.53	3.44	6.08	3.84	20.4
Visa missing	5.55	4.47	16.8	12.0	23.7
Other	6.99	1.84	8.11	7.21	15.9
Percent in cohort	.53	.99	2.24	3.76	25.9

*Notes:* Columns sum to 100 percent. The EB-3 category excludes “other workers.” The “All Employment Principals” column includes only EB-1, EB-2, and EB-3 (less the “other workers”). The major nonimmigrant visa category represented in the “Other” set for spouses of U.S. citizens is the fiancée K visa. Percent in cohort is defined as the number of adjustee principals in the given visa category divided by the total number of respondents in the cohort (8,573).

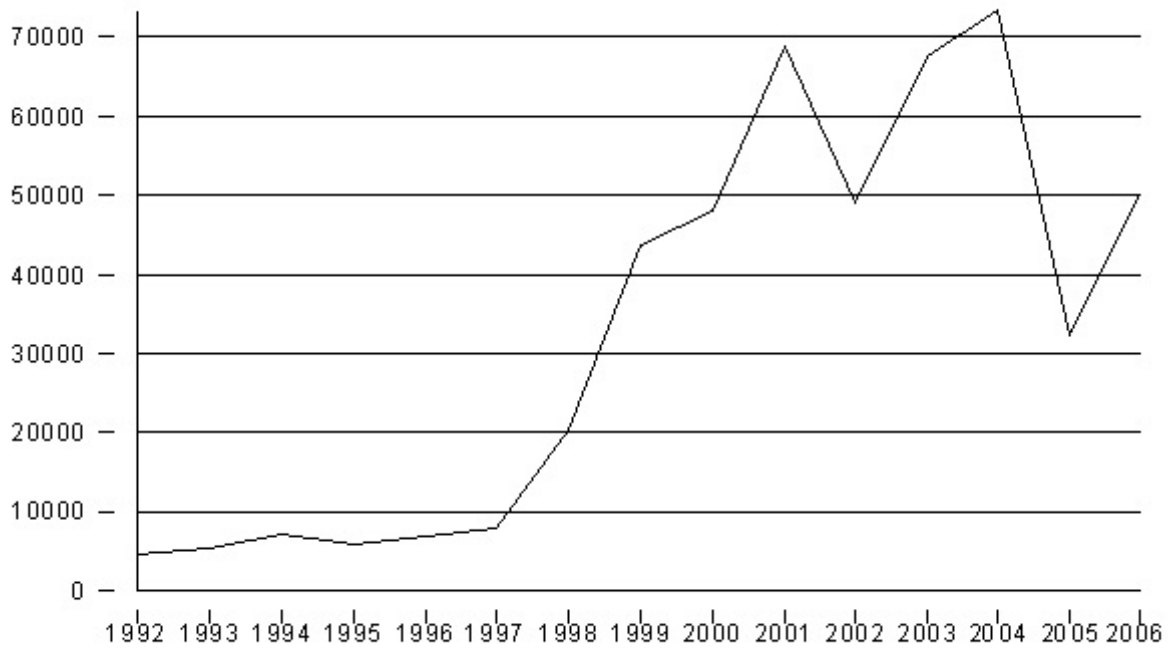


Figure 1. I-140 Petitions Pending Adjudication at End of Fiscal Year.  
Source: CIS Ombudsman, *Annual Report to Congress June 2007*.

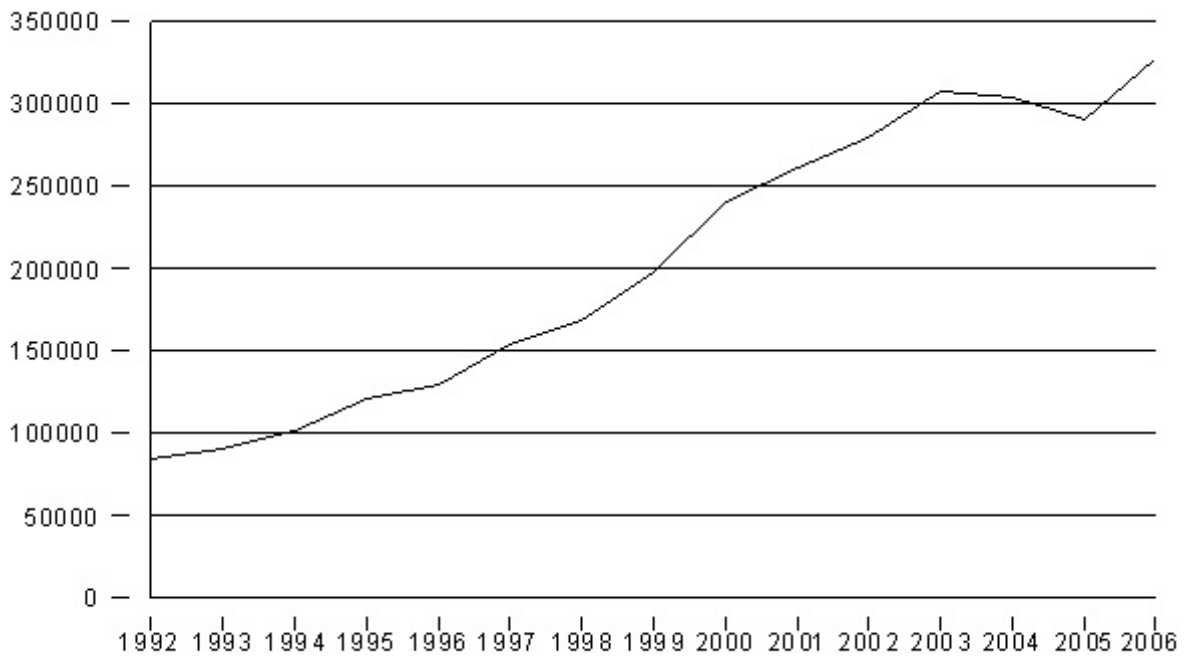


Figure 2. Employment-Based Principals with Approved I-140 and Unfiled/Pending I-485, Adjusted for Initial Queue in 1992



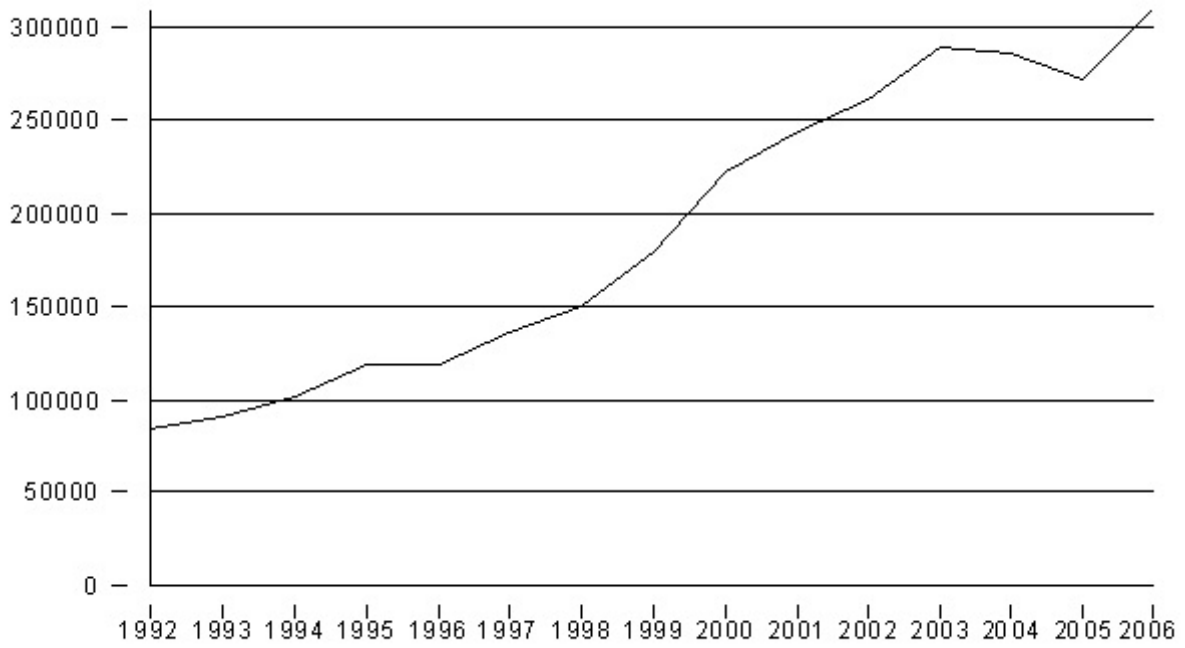


Figure 3. Employment-Based Principals with Approved I-140 and Unfiled/Pending I-485, Adjusted for Initial Queue in 1992 and for Departures from the Queue in 1994, 1995, and 1996.

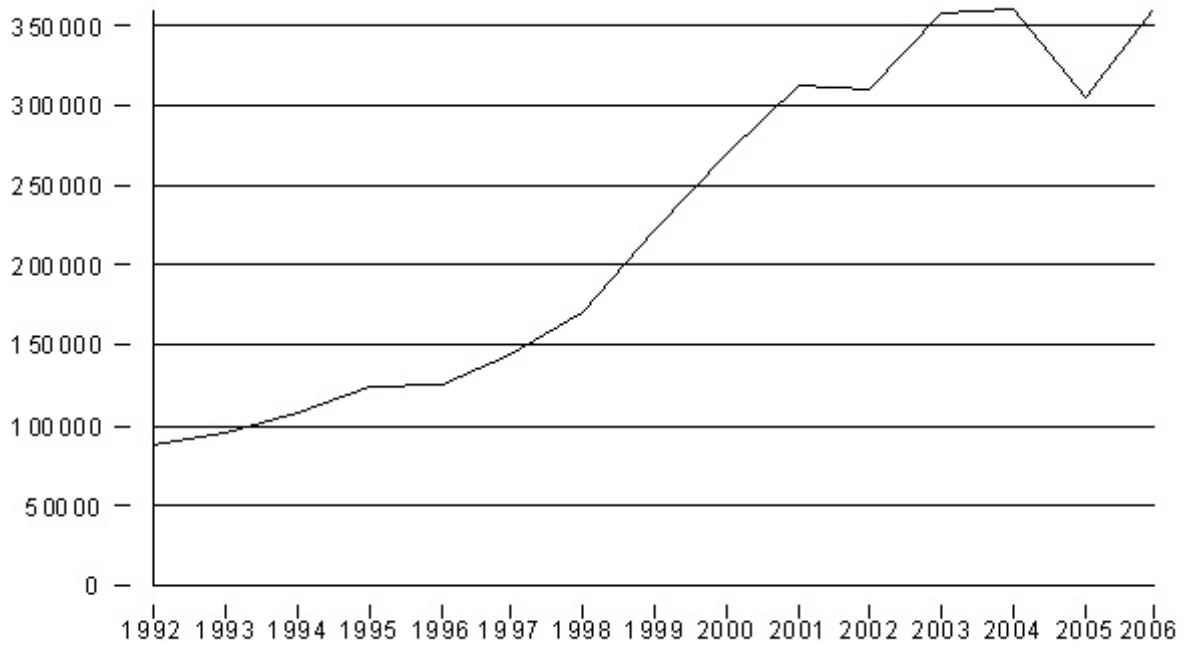


Figure 4. Employment-Based Principals with Pending or Approved I-140. Approved I-140 series adjusted as in Figure 3.