

U.S. Immigration in the Rear View Mirror

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EXTENDED ABSTRACT

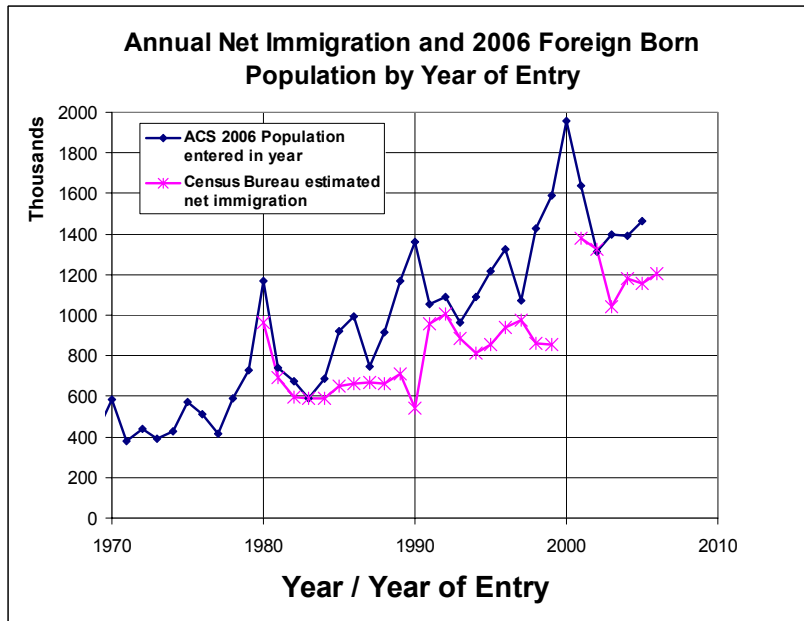
The purpose of this paper is to estimate the annual immigration component of change for the United States for calendar years from 1970 to 2002 that are consistent with the 2000 census population.

Statement of problem and Theoretical focus

The U.S. Census Bureau has published estimates of the annual net immigration component of change in the nation's population from Apr. 1, 1980 to July 1, 1999 that are consistent with the 1990 census count. (U.S. Bureau of the Census 2002, Table 4) It has also put forth estimates of the annual net immigration component of change from Apr. 1, 2000 forward that are consistent with the 2000 census population counts (e.g., U.S. Bureau of the Census 2006).

If these two series are concatenated, (as shown by asterisks in the graph, below) the resulting series is flawed in at least three ways.

1. The estimates of immigration pre and post-2000 are inconsistent; the latter reflect the much higher levels of net undocumented immigration implied by the 2000 census.
2. The embedded annual levels of undocumented immigration are extrapolated from previous estimates and may not reflect actual current flows.
3. There is a gap in the series, from July 1, 1999 to April 1, 2000.



The above graph shows that the 2006 populations of arrival cohorts (without adjustment for emigration or mortality) are uniformly higher than the estimates of net immigration and in many years far higher. The series of arrival cohort populations as of 2006 (diamonds) exhibits "heaping" on years ending in preferred final digits,

especially those ending in 0. A compensating adjustment will be made to reverse the estimated effects of the resulting bias. (It should be noted that the Census Bureau estimates shown in the graph include net movement of U.S. armed forces and civilian governmental personnel. These movements were substantial in 1989 and 1990 due to the First Gulf War.)

The underlying problem is the large and very probably variable volume of undocumented immigration that is missed by the pre-2000 estimates. Complicating matters, the large “error of closure” in the 2000 census (6.8 million) makes it impossible retrospectively to adjust the previous current estimates of immigration without making strong and necessarily arbitrary assumptions about the temporal distribution of the decadal (census-to-census) adjustment.

One approach to solving this problem from 1994 forward is to use the Current Population Survey (CPS) as a basis for estimating changes in the foreign-born population and inferring net annual immigration as a residual of year-to-year estimates (Passel 2005).

Data

New estimates of net annual immigration will be developed based on tabulations of the foreign-born population by Year of Entry in the Public Use Microdata Samples (PUMS) of the 2000 census and the 2005 and 2006 American Community Survey (ACS).

Methods

The basic method used will be to “reverse survive” and “reverse emigrate” (annual cohorts of foreign-born arrivals backwards from Census Day (ACS year) to year of entry or 1980, for pre-1980 arrival cohorts, controlling for age, sex, and race/ethnicity. The final cohort population is taken as the gross number of immigrants that arrived in that year. *Gross annual emigration* is estimated as the sum of emigrants in all earlier arrival cohorts in a given year. *Net annual immigration* is then equal to gross immigration minus gross emigration in each year.

National life table rates will be used to estimate foreign-born deaths in each year for each arrival cohort. (Possible differences between estimated and actual deaths due the “immigrant health advantage” will be of little consequence because of the relatively low modal age of even the earliest immigrant arrivals by the end of the study period.)

Emigration will be imputed based on the average rates for the 1998-2004 period calculated by Van Hook et. al. (2006) from matched CPS panel data. These rates vary by age, country of origin, and, importantly, duration since entry in the U.S., i.e., are greatest immediately after entry. Use of these rates in this way requires an assumption of constant past rates of emigration. Although there is no empirical support for this assumption, average gross emigration flows are estimated at less than one-quarter of the number of immigrants during the study period. Therefore plausible variations in the rate of

emigration can be assumed to have only small proportional impacts on the resulting estimates of net immigration.

In an earlier study the author (Pitkin 2004, 2006) used the same method and 2000 census data to estimate annual immigration to the Los Angeles metropolitan area.

Particular attention will be paid to the quality of the data on Year of Entry and consistency and differences between the populations of annual entrants in the three data sources. It is expected that the estimates will be affected by moderate “heaping” of the populations entering in particular years due to respondent preferences for responses ending in certain digits (especially 0 and possibly 5). The final estimates of immigration will incorporate adjustments (smoothing) to compensate for this pattern. Use of data from three survey years will ensure a more robust basis for these adjustments than data from a single survey year.

Expected Findings

The main finding of the paper will be an annual series of estimates of net immigration from calendar 1970 through at least 2002 that will be uniformly consistent with the 2000 census population. These estimates will be compared with those of the Census Bureau and Passel. Based on the author’s earlier work on immigration to the Los Angeles metropolitan area and exploratory analysis of the national data, it is anticipated that these new estimates will exhibit more year-to-year variability than the comparable pre-2000 estimates of the Census Bureau.

References

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