COMPARISON OF ACS AND ASEC DATA ON CITIZENSHIP, YEAR OF ENTRY AND REGION OF BIRTH: 2004

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INTRODUCTION

This report is one in a series that compares data from the American Community Survey (ACS) with data from the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS). The report focuses on comparisons of national distributions of citizenship status, year of entry, and place of birth between the 2004 ACS and the 2004 ASEC. It suggests possible explanations for those differences that are both statistically and substantively different. The population living in group quarters is excluded from the analysis.

METHODOLOGY

The tables included in this report compare the most commonly tabulated data on citizenship status, year of entry, and place of birth from the ACS and the ASEC. Comparisons consist primarily of percentage-point differences between the two distributions. Tables display the ACS and the ASEC estimates, the margins of error from which 90-percent confidence intervals of the estimates can be derived, and the difference between the two estimates. In the case of frequency distributions, the difference is calculated as the percent difference between the two estimates. In the case of relative frequency distributions, the difference is calculated as the percentage-point difference between the two estimates (Footnote 2 in the tables provides more details). An asterisk (*) denotes statistically significant differences at the 90-percent confidence level.

At the national level, the ACS and the ASEC variances were small. With this level of precision, many differences between the ACS and ASEC distributions that may be unimportant for analytical purposes are statistically significant. This report generally does not consider statistically significant differences of 0.5 percentage points or less, with some exceptions based on the relative size of the category. For example, for population groups constituting a relatively large percentage of the population (for example, the foreign-born population from Latin America), a 0.5 percentage-point difference in the estimates might be relatively small, while for population groups constituting a smaller percentage of the population (for example, the population born abroad of at least one American parent), a 0.5 percentage-point difference could be relatively large. This decision is subjective, however, and users can apply their own standards to interpret the data presented in this report.

The remainder of this section examines differences in methodology between the two surveys.

Sample Frame

The 2004 ACS surveyed a national sample of housing units, both occupied and vacant. Data were collected in a total of 1,240 counties out of the 3,141 counties in the United States. The sample is designed to provide estimates of housing and socio-economic characteristics for the nation, all states, most areas with a population of 250,000 or more, and selected areas of 65,000 or more.

The 2004 ASEC surveyed a national sample of households. The sample is designed primarily to produce estimates of the labor force characteristics of the civilian noninstitutionalized population 16 years of age and older for the nation and all states.

One difference between the two survey universes is that the ASEC includes a small number of individuals living at addresses that were housing units in 2000 but have since been converted into noninstitutional group quarters (e.g., emergency and transitional shelters and group homes).

Sample Size and Mode of Data Collection

The 2004 ACS interviewed a total of 534,383 households. Data were collected continuously throughout the year using a combination of mail-out/mail-back questionnaires, Computer-Assisted Telephone Interviewing (CATI), and Computer-Assisted Personal Interviewing (CAPI). Each month a unique national sample of addresses received an ACS questionnaire. Addresses that did not respond were telephoned during the second month of collection if a phone number for the address was available, and personal visits were conducted during the third and the last month of data collection for a subsample of the remaining nonresponding units. The 2004 ACS achieved an overall survey response rate of 93.1 percent[1], calculated as the initially

[1] As a result of a reduction in funding in 2004, ACS dropped the telephone and personal visit followup operations for the January 2004 panel, thus only allowing mail respondents to contribute to the overall response for that panel. Dropping the nonresponse followup operations for that single panel month reduced the annual response rate by about four percentage points. If we exclude the January panel from the calculation, the annual response rate rises to 97.3% The Census Bureau revised the methodology for calculation of the response rate in 2004 and although a similar cost reduction measure was taken in 2002 the response rates provided for 2002 do not reflect this new method.

weighted estimate of interviews divided by the initially weighted estimate of cases eligible to be interviewed.

The 2004 ASEC contained interviews from about 77,000 housing units, 59 of which were noninstitutional group quarters in which the population is sampled using housing unit equivalents. The ASEC interviews were collected over a three-month period in February, March, and April 2004 as a supplement to the basic monthly CPS conducted during those months, with most of the data collected in March. All ASEC data are collected via Computer-Assisted Telephone and Personal Interviews (CATI/CAPI), with interviews conducted during one week each month. The response rate for the 2004 ASEC was 91.8 percent. Response rates among eligible households were about 92 percent in February and April 2004 and 91 percent in March 2004.

Both the ACS and the ASEC employ experienced permanent interviewers for CATI and CAPI data collection.

Among the native population, about 57 percent answered the ACS by mail, while about 12 percent responded via CATI and 31 percent responded via CAPI. Conversely, among the foreign-born population, about 39 percent responded by mail, while 15 percent responded via CATI and 46 percent responded via CAPI.

Within the foreign-born population there were interesting differences. Among naturalized citizens, 52 percent responded via mail, 14 percent responded via CATI, and 34 percent responded via CAPI. For the non-citizen population, 30 percent responded by

mail, 16 percent responded via CATI and 54 percent responded via CAPI.

Residence Rules

The ACS and the ASEC employ different residence rules to determine which individuals in a household are eligible for interview; the ACS uses the concept of current residence, while the ASEC uses a version of usual residence. This difference may contribute to variation in the universes on which social characteristics depend.

The ACS interviews everyone in the housing unit on the day of interview who is living or staying there for more than two months regardless of whether they maintain a usual residence elsewhere, or who does not have a usual residence elsewhere. If a person who usually lives in the housing unit is away for more than two months at the time of the survey contact, he or she is not considered to be a current resident of that unit. This rule recognizes that people can have more than one place where they live or stay over the course of a year, and these people may affect estimates of the characteristics of the population for some areas.

The ASEC interviews everyone staying in the housing unit at the time of the interview who considers the housing unit as their usual residence or who has no usual residence elsewhere. In addition, the ASEC includes temporarily absent individuals who consider the housing unit as their usual residence.

The different residence rules result in one notable difference in the universes of the two surveys. Because the 2004 ACS excluded group quarters from the sample frame and interviewed individuals at their current residence, college students living in dormitories are not included in the ACS universe. In contrast, the ASEC interviewers are instructed to include as household members any college students who are temporarily absent from the household, including those who are currently residing in college dormitories. This difference implies that the ASEC sample universe should include more college students than the ACS sample universe.

Question Wording and Reference Periods

Differences between the ACS and the ASEC in presentation and wording of questions may contribute to differences in estimates.

Citizenship Status.

The mail version of the ACS asks the citizenship status item as follows:

> Is this person a CITIZEN of the United States?
>
> Yes, born in the United States
> Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas
> Yes, born abroad of American parent or parents
> Yes, U.S. citizen by naturalization
> No, not a citizen of the United States

The CATI/CAPI version of the ACS asks the citizenship status item of all persons whose place of birth is NOT one of the 50 United States, the District of Columbia, or a U.S. territory or commonwealth, as follows:

> (Is <Name>/Are you) a citizen of the United States?
>
> Yes
> No

The question below is asked for all persons who are United States citizens, but whose place of birth is NOT one of the 50 United States, the District of Columbia, or a U.S. territory or commonwealth.

> (Was <Name>/Were you) born abroad of an American parent or parents, or did (he/she/you) become a citizen by naturalization?
>
> Born abroad of American parent or parents
> Citizen by naturalization

The ASEC asks the citizenship status item as follows:

> Are you a CITIZEN of the United States?
>
> Yes
> No, not a citizen

If the respondent answers "Yes," follow-up questions are asked to determine how he/she obtained U.S. citizenship:

> Were you born a citizen of the United States?
>
> Yes
> No
>
> Did you become a citizen of the United States through naturalization?
>
> Yes
> No

Year of Entry. For the year of entry item, the mail and CATI/CAPI versions of the ACS ask an open-ended question:

> Mail:
> When did this person come to live in the United States?
>
> CATI/CAPI:
> When did (<Name>/you) come to live in the United States?

In the CATI/CAPI version, the question is asked of all persons who answered that they were NOT born in one of the 50 states or the District of Columbia. If a person's year of

entry is earlier than the person's year of birth, the enumerator receives an alert that requires he or she ask the respondent for clarification on which year is correct.

Similarly, the ASEC asks:

> When did you come to live in the United States?

In the ASEC, if the respondent reports the number of years ago instead of the actual year, the enumerator is instructed to enter that number and the instrument calculates the year. Otherwise, the enumerator is instructed to enter the year.

Place of Birth.

The mail version of the ACS asks the place of birth item as follows:

> Where was this person born?
>
> In the United States - Print name of state.
> Outside the United States - Print name of foreign
> country or Puerto Rico, Guam, etc.

The CATI/CAPI version asks:

> Where (were you/was <Name>) born?

The enumerator must enter either the abbreviation for the person's state of birth or NU for "Not in the U.S." (including U.S. territories and commonwealths). If the response is "Not in the U.S.," the enumerator asks the following:

> In what country (were you/was <Name>) born?

The enumerator begins entering the name of the foreign country or U.S. territory or commonwealth where the person was born. A list of countries and territories will appear and will shorten as the enumerator enters more letters. The enumerator then chooses the appropriate country or territory name as given by the respondent.

The ASEC asks not only the respondent's place of birth but also his or her parents' place of birth:

> In what country were you born?
> In what country was your mother born?
> In what country was your father born?

The enumerator is given a list of codes to choose from. They include:

(1) United States
(2) Puerto Rico
(3) Outlying area of the U.S. (American Samoa, Guam, U.S. Virgin Islands, Northern Marianas, Other U.S. Territory)

Codes with numbers (4) or higher correspond to other countries and world regions. The enumerator selects one of these codes based on the response given.

In 2004, the code lists for the country of birth were different for the ACS and the ASEC. For the ASEC, enumerators could choose a category called "elsewhere" if the response given was not one of the countries or regions listed. The ACS had no such category. Beginning in 2006, the code lists for the ACS and the ASEC will be comparable.

No comparison can be made on the parental nativity data obtained from the ASEC since the ACS does not ask similar questions.

Item Nonresponse

Item nonresponse occurs when an individual does not provide complete and usable information for a data item. Item allocation rates are often used as a measure of the level of item nonresponse. These rates are computed as the ratio of the number of eligible people or households for which a value was allocated during the editing process for a specific item to the number of people or households eligible to have responded to that item.

For the 2004 ACS, allocation rates for the citizenship status, year of entry, and place of birth items were 0.3 percent, 7.3 percent, and 5.5 percent respectively compared with 0.3 percent, 9.6 percent, and 1.0 percent for the 2004 ASEC.[2]

[2] The universe for the citizenship status and place of birth items is the total population. The universe for the year of entry item is the population born outside the United States.

Data Editing and Imputation Procedures

The ACS and the ASEC edit and imputation rules are designed to ensure that the final edited data are as consistent and complete as possible. These rules are used to identify and account for missing, incomplete, and contradictory responses. In each case where a problem is detected, pre-established edit rules govern its resolution.

The ACS and the ASEC employ two principal imputation methods: relational imputation and hot deck allocation. Relational imputation assigns values for blank or inconsistent responses on the basis of other characteristics on the person's record or within the household. Hot deck allocation supplies responses for missing or inconsistent data from similar responding housing units or people in sample.

Both the ACS and ASEC editing procedures employ logical checking routines to produce consistency among household members and among responses. For example, a respondent's year of entry cannot be before their year of birth. In the ASEC, if a person reports a foreign country of birth, and one or both of their parents was born a U.S. citizen, then their status must be "born abroad of American parents."

People born abroad of U.S. citizens are considered U.S. citizens themselves, and placed in the category "born abroad of American parents." Where the respondent did not answer the citizenship question, both the ACS and the ASEC use other available data on the surveys to determine whether the person is a U.S. citizen born abroad of U.S. citizen parents. However, while the ASEC directly asks all people for their parents' place of

birth, the ACS relies on relationship to householder to derive parental nativity and therefore determine citizenship status. For example, if the relationship to householder is given as either "householder," or "brother/sister," and someone else in the household lists "mother/father," then the ACS uses the place of birth data from the "mother/father" to assign parental nativity to the householder and any siblings. The ACS, therefore, can only assign parental nativity to people related to the householder. In the case of householders or their siblings, their parents must be living within the household.

Allocation routines using hot decks generally stratify the donors and recipients of the hot deck by their age, race, and Hispanic origin.

Controls and Weighting

Differences in the selection of controls and the calculation of weights between the two surveys may lead to differences in estimates. The ACS and the ASEC are both weighted to account for the probability of selection and housing unit nonresponse.

After the initial weighting, data from the ACS and the ASEC are both controlled to be consistent with independent population estimates. Data from the 2004 ACS are controlled, at the county level, to independent estimates of the household population and housing units in July 2004. The 2004 ASEC data are controlled to independent national estimates of the civilian noninstitutionalized population in March 2004. In addition, the ACS presents the average responses over a 12-month period, while the ASEC shows the living arrangements of people for the February - April time period, although the

population is controlled to March estimates. Because the ACS controls to both the household population and the number of housing units, the ACS files contain both person weights and housing unit weights. The ASEC does not control to the total number of housing units and, thus, the ASEC files do not contain an independent housing unit weight but instead use the weight of the householder as the weight of the housing unit.

RESULTS

Citizenship Status

Table 1 presents data on citizenship status. Although universe differences make direct comparisons of the estimates difficult, comparisons can be made between the differences in the proportional distributions. All of the percentage-point differences are relatively small and the apparent differences between the ACS and the ASEC in the size of the total foreign-born population and the size of the native population are not statistically significant.

For the native population, only the category "Citizen, born abroad of American parent(s)" shows a small statistically significant difference between surveys, with the ASEC showing a higher proportion than the ACS. The ACS shows a higher proportion of naturalized U.S. citizens than the ASEC. Conversely, the ACS shows a lower proportion of non-U.S. citizens than the ASEC. None of these differences, however, is 0.5 percentage points or more.

Year of Entry

Table 2 compares data on citizenship status of the population (both native and foreign born) born outside the United States by year of entry. Among the total population born outside the United States, significant differences include a 1.1 percentage-point difference between the estimates for those arriving in 2000 or later with the ACS showing a higher proportion, 17.7 percent compared with 16.5 percent in the ASEC. For the total native population born outside the United States, the ASEC shows a higher proportion for those who entered before 1980, 5.9 percent, a 1.2 percentage-point difference from the ACS proportion of 4.7 percent. Among the foreign-born population, the ASEC shows 31.3 percent who entered between 1990 and 1999, 1.5 percentage points higher than the ACS proportion of 29.8 percent.[3] The ASEC is administered in February through April and is benchmarked to the March population controls, while the ACS is a year-round survey, and is benchmarked to the July population controls. Therefore, the differences in the estimates between surveys may be due, in part, to the difference in reference periods for each survey.

The "Naturalized U.S. Citizen" category has a significant difference of 3.7 percentage points, with the ACS showing a higher proportion of naturalized citizens. Correspondingly, the "Not a U.S. Citizen" category has a significant difference of 3.7 percentage points, with the ASEC showing a higher proportion of non-citizens. The lowest percentage-point difference among the naturalized U.S. citizen population is for the category '2000 or later.' The percentage point difference ranges from 0.1 percentage

[3] The percentage point differences for the categories ' 2000 or later,' 'before 1980,' and '1990-1999' are not statistically different.

points to 1.5 percentage points. This trend is not evident for the noncitizen population, although the difference for noncitizens entering between 1990 and 1999 is statistically significant at 3.1 percentage points, with 24.4 percent for the ACS and 27.5 percent for the ASEC.

World Region of Birth

Table 3 examines "World Region of Birth." No comparison can be made on the "elsewhere classified" category from the ASEC because this category does not exist in the ACS. Comparisons between surveys for the remaining groups show differences that range from 0.2 to 1.6 percentage points. The percentage-point difference between surveys for the Latin American foreign-born population is not statistically significant. For all remaining world regions that are comparable on the surveys, the proportions shown from the ACS are larger than those from the ASEC. One of the largest of the statistically significant differences is 1.6 percentage points, the difference between the estimates of the foreign-born population from Asia (27.0 percent from the ACS, compared with 25.4 percent from the ASEC). Also notable is the percentage-point difference between the estimates of the foreign born from Africa: the difference is 1.1 percentage points, with the ACS showing a proportion of 3.3 and the ASEC showing a proportion of 2.2.[4]

SUMMARY

Data from the American Community Survey (ACS) on the native and the foreign-born populations are consistent with those from the Annual Social and Economic Supplement

[4] The percentage-point differences between Asia (1.6) and Africa (1.1) are not statistically different.

to the Current Population Survey (ASEC). The principal differences noted in this report are the larger proportion of noncitizens who entered between 1990 and 1999 found in the ASEC and the larger proportion of the foreign-born population from Asia and Africa found in the ACS. Some of these differences may be due to the difference in the universes of the two surveys (because of different residence rules, college students living in dormitories are not included in the ACS universe). Some of the differences may be traced to the editing procedures used, which can be affected by the difference in sample size between surveys, while some differences may be attributable to the difference in the data collection instrument.