

9. DIFFERENCES BETWEEN THE ACS AND THE DECENNIAL CENSUS

While the main function of the U.S. decennial census is to provide counts of people for the purpose of congressional apportionment, the primary purpose of the American Community Survey (ACS) is to measure the changing social and economic characteristics of the U.S. population—our education, housing, jobs, and more.

Every 10 years since 1790, Congress has authorized the government to conduct a national census of the U.S. population, as required by the U.S. Constitution. In every decennial census from 1940 through 2000, two questionnaires were used to collect information: a “short form” with only basic questions such as age, sex, race, and Hispanic origin; and a “long form” with the basic short-form questions plus additional questions on social, economic, and housing characteristics. Only a subset of households received the long-form questionnaire—about one in every six in 2000.

After the 2000 Census, the long form was replaced by the ACS, which continued to collect long-form-type information throughout the decade. The ACS includes not only the basic short-form questions, but also detailed questions about population and housing characteristics. It is a nationwide, continuous survey designed to provide communities with reliable and timely social, economic, housing, and demographic data every year. Since its start, the ACS has been providing a continuous stream of updated information for states and local areas, and is revolutionizing the way we use statistics to understand our communities.

There are many similarities between the ACS and the 2000 Census long form. Both data sources are based on information from samples of the population, and while there are some differences in the question wording between the ACS and the 2000 Census long form, many questions in the two forms are very similar. However, there are also important differences in residence rules, reference periods, definitions, and methods between the two data sources that can impact comparability between ACS and 2000 Census data. For detailed guidance on comparing ACS and 2000 Census data, visit the U.S. Census Bureau’s Web page on Comparing ACS Data.⁶⁹

Residence Rules and Reference Periods

The fundamentally different purposes of the ACS and the decennial census and their timing led to important differences in the choice of data collection methods.

⁶⁹ U.S. Census Bureau, American Community Survey (ACS), Comparing ACS Data, <www.census.gov/programs-surveys/acs/guidance/comparing-acs-data.html>.

The decennial census residence rules, which determine where people should be counted, are based on the principle of “usual residence” on April 1, in keeping with the focus of the census on the requirements of congressional apportionment and state redistricting. To accomplish this, the decennial census attempts to restrict and determine a principal place of residence on one specific date for everyone enumerated.

The ACS uses a “current residence” rule to interview people who are currently living or staying in the sample housing unit as long as their stay at that address will exceed 2 months (see Box 9.1 for more information). This method is consistent with the goal that the Census Bureau produce ACS estimates based on data collected over a period of time, rather than a single point in time. ACS 1-year estimates represent data that have been collected over a 12-month period, and 5-year estimates represent data collected over a period of 60 months.

Therefore, a key difference between the ACS and the decennial census is the overall time frame in which they are conducted. The distribution of census enumeration dates are highly clustered in March and April (when most census mail returns are received) with additional, smaller clusters seen in May and June (when nonresponse follow-up activities take place). This means that the data from the decennial census tend to describe the characteristics of the population and housing in the March through June time period (with an overrepresentation of March and April), while ACS data describe the characteristics nearly every day over the full calendar year.

The differences in the ACS and census data as a consequence of the different residence rules are most likely minimal for most areas and most characteristics. However, for certain segments of the population, the usual and current residence concepts could result in different residence decisions. Appreciable differences may occur in areas where large proportions of the total population spend several months of the year in areas that would not be considered their residence under decennial census rules. In particular, data for areas that include large beach, lake, or mountain vacation areas, or large migrant worker communities may differ appreciably between the decennial census and the ACS if populations live there for more than 2 months.

Some of the specific differences in reference periods between the ACS and 2000 Census are described on the next page. Data users should consider the potential impact of these differences when comparing ACS with 2000 Census estimates.

Box 9.1. Who Counts as a “Resident” in the ACS?

The ACS uses the concept of “current residence” to determine who should be considered residents of sample housing units. The basic idea behind this concept is that everyone who is currently living or staying at an address for more than 2 months is considered a current resident of that address.

This means that their expected length of stay is more than 2 months, not that they have been staying in the housing unit for more than 2 months at the time when the survey is conducted. A person away from their residence for 2 months or less, whether in the United States or overseas, on a vacation or on a business trip, is considered to be a “resident” at the address, and the unit is classified as occupied and eligible for inclusion in the survey. A person away from their residence for more than 2 months is considered not to be a resident. For the ACS, if no one is determined to be a current resident in the sampled housing unit, it is classified as “vacant.”

There are a few exceptions to the “2-month” rule:

People Without Another Place to Stay: Anyone staying at a residence who does not have another place to stay, even if they are at the residence for 2 months or less, are always considered current residents of the residence.

Children Away at School: Children (under college age) who are away at boarding school or summer camp for more than 2 months are always considered current residents of their parents’ homes. College students’ current residency is established by the 2-month rule.

Children in Joint Custody: Children who live under joint custody agreements and move between residences are always considered current residents of the sampled housing unit where they are staying at the time of the interview.

“Commuter Workers”: People who stay at a residence close to work and return regularly to another residence to be with their family are always considered current residents of the family residence, not the work-related residence.

Residency in group quarters facilities is determined differently. All people residing in the selected facility at the time of interview, regardless of the length of stay, are eligible to be selected to be interviewed in the ACS.

Employment Status (Compare With Caution)

The reference periods are different because of year-round ACS data collection. The ACS reference period is the week before the respondent completed the survey or the field representative conducted the interview. Because questionnaires are mailed and field interviews are conducted throughout the year, there is a revolving reference period. For the 2000 Census, the reference period was the week before Census Day (April 1, 2000).

Income and Earnings Data (Compare With Caution)

The ACS asks for a respondent’s income over the “past 12 months.” For example, the 2015 ACS 1-year data reflect incomes over 2014–2015, and the 2011–2015 ACS 5-year data reflect incomes over 2010–2015. The 2000 Census, however, collected the income data for

a fixed period of time—“during 1999” (the last calendar year). In a comparison study between the 2000 Census income data and the 2000 ACS, income collected in the 2000 Census was found to be about 4 percent higher than that in the 2000 ACS. For more information on the differences of income in the ACS and the 2000 Census, visit the Census Bureau’s Web page on Income in the American Community Survey: Comparison to Census 2000.⁷⁰

School Enrollment (Compare)

The ACS reference period was 3 months preceding the date of interview, while the 2000 Census reference period was any time since February 1, 2000.

⁷⁰ U.S. Census Bureau, Income in the American Community Survey: Comparisons to Census 2000, <www.census.gov/library/working-papers/2003/acs/2003_Nelson_01.html>.

Definitions

Many data items collected in both the ACS and the 2000 Census long form have slightly different definitions that could affect the comparability of the estimates for these items. Some of the specific differences in subject or variable definitions between the ACS and the 2000 Census are described below. For a comprehensive list, visit the Census Bureau's Web page on Subject Definitions.⁷¹

Group Quarters

The total group quarters (GQ) population in the ACS may not be comparable with the 2000 Census or 2010 Census counts because there are some GQ types that are out of scope in the ACS. These include domestic violence shelters, soup kitchens, regularly scheduled mobile food vans, targeted nonsheltered outdoor locations, crews on maritime vessels, and living quarters for victims of natural disasters. The exclusion of these GQ types from the ACS may result in a small bias in some ACS estimates to the extent that the excluded population is different from the included population. Furthermore, only a sample of GQ facilities throughout the United States and Puerto Rico are selected for the ACS. The ACS controls the GQ sample at the state level only. Therefore, for lower levels of geography, particularly when there are relatively few GQs in a geographic area, the ACS estimate of the GQ population may vary from the count from the decennial census.

Aggregate Gross Rent

Data on gross rent in the ACS should not be compared with 2000 Census gross rent data. For the 2000 Census, tables were not released for total renter-occupied units. The universe in the 2000 Census was "specified renter-occupied housing units," which excluded one-family houses on 10 acres or more, whereas the universe in the ACS is "renter-occupied housing units," thus, comparisons cannot be made between these two data sets.

Occupants Per Room

Data on occupants per room in the ACS should be compared with the 2000 Census with caution. This is due to: 1) differences in residence rules, 2) the absence of population controls used to adjust for undercoverage in the reported number of current residents in the ACS used in this measure, and 3) differences in the reported number of rooms because of changes in the rooms question between the 2007 and 2008 ACS.

Data Collection Modes

Until 2015, the Census Bureau sent all selected addresses an advance notification letter informing people living at that address that they had been selected to participate in the ACS. Shortly thereafter (for most U.S. addresses), instructions for completing the survey by Internet were mailed. Beginning in August 2015, the Census Bureau eliminated the advance notification letter and instead included instructions in the initial mail package for completing the survey by Internet or over the phone through a toll-free Telephone Questionnaire Assistance (TQA) line. If households do not respond by Internet or TQA, then a paper questionnaire is mailed to the address. In Puerto Rico and some hard-to-reach areas, only a paper questionnaire is mailed.

Until 2017, if no response was received by Internet, TQA, or mail within a month following the initial mailing, the Census Bureau followed up with a telephone interview when a telephone number was available. However, beginning in October 2017, the Census Bureau discontinued the telephone Nonresponse Followup operation because of declining response rates and increasing costs. Respondent data are still collected via telephone through the TQA operation.

If the Census Bureau is unable to get a response by Internet, mail, or TQA, then the address may be selected for an in-person interview. Because of the high cost per completed interview, the Census Bureau samples about one in three nonrespondent housing units for personal visit interviews. The proportion of nonresponding households selected for in-person interviews is higher in areas with lower predicted response rates. A sample of people living in group quarters facilities—such as college dorms, skilled nursing facilities, or correctional facilities—is also interviewed in person to ensure coverage of people who are not living in housing units.

Like the ACS, the primary modes of data collection in the 2000 Census and the 2010 Census were mail-out/mail-back questionnaires, telephone, and in-person visits. Unlike the ACS, enumerators for the decennial census attempted to follow up with all nonresponding households through telephone or personal interviews. Data for those who could not be contacted or who refused to participate were collected through "proxy" interviews, which means interviewers attempted to find and get a response from a knowledgeable respondent who was not a member of the household. Neither the 2000 Census nor the 2010 Census included an Internet response option, although the Census Bureau plans to provide this option in the 2020 Census.

⁷¹ U.S. Census Bureau, American Community Survey (ACS), Code Lists, Definitions, and Accuracy, <www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html>.

Sampling and Nonsampling Error

ACS data, like the data from the 2000 Census long form, are derived from a sample of the population and are therefore subject to sampling error. The 2000 Census sample—consisting of about one in six households nationwide—is larger than the 5-year aggregated ACS sample designed to replace it. Therefore, there is more sampling error associated with the ACS 5-year estimates, compared with estimates from the 2000 Census long form. However, compared with the 2000 Census, the ACS has lower levels of nonresponse error—as measured through survey response rates and item nonresponse rates. Visit the sections on “Understanding Error and Determining Statistical Significance” and “Measures of Nonsampling Error” for more information.

Additional Background Information

Design and Methodology Report

<www.census.gov/programs-surveys/acs/methodology/design-and-methodology.html>

The 2014 Design and Methodology Report contains descriptions of the basic design of the ACS and details of the full set of methods and procedures.

American Community Survey and Puerto Rico Community Survey Subject Definitions

<www.census.gov/programs-surveys/acs/technical-documentation/code-lists.html>

This document provides detailed definitions of population and housing variables in the ACS, as well as guidance on making comparisons with ACS data.

Comparing ACS Data

<www.census.gov/programs-surveys/acs/guidance/comparing-acs-data.html>

This Web page provides guidance on making comparisons with ACS data. It includes a link to an ACS/Census Table Comparison Tool to match ACS 5-year tables with corresponding tables from the 2000 Census.⁷²

⁷² U.S. Census Bureau, American Community Survey, ACS/Census Table Comparison, <www.census.gov/acs/www/guidance/comparing-acs-data/acscensus-table-lookup/>.