

Appendix C.

Historical Changes

The American Housing Survey (AHS) began in 1973 as the Annual Housing Survey. Since 1981, the U.S. Census Bureau has conducted the national survey every odd-numbered year. In 1984, it was renamed the American Housing Survey. Other historical changes in the survey are listed below by subject area. The year refers to the year the change was made. In some cases, multiple years are mentioned together. In these cases, either corrections were made to the data in more than 1 year or there are specific years for which data are not comparable.

Only changes are noted in this appendix. For example, “Book titles, national” has no entries for 1975–77, since the same titles were published for those years as in 1974.

Access to structure.

2005. A question was added to determine if it was possible “to enter the housing unit from the outside without climbing up or down any steps.”

Age of other residential buildings within 300 feet.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Average monthly cost paid for real estate taxes.

2007. See the topic “Real estate taxes: average monthly cost paid for.”

Bars on windows of buildings.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Book titles, metropolitan sample.

1974. Annual Housing Survey: 1974

Housing Characteristics for Selected Metropolitan Areas (A separate book is published for each metropolitan area.)

Summary of Housing Characteristics for Selected Metropolitan Areas (One book is published containing summary data for all areas.)

1984. American Housing Survey: 1984

American Housing Survey for the (name of area) Metropolitan Area (A separate book is published for each metropolitan area.)

Book titles, national.

1973. Annual Housing Survey: 1973

Part A. General Housing Characteristics (compared central city, suburban, and nonmetropolitan areas)

Part B. Indicators of Housing and Neighborhood Quality

Part C. Financial Characteristics of the Housing Inventory

Part D. Housing Characteristics of Recent Movers

Supplement report number 1. Financial Characteristics by Indicators of Housing and Neighborhood Quality

1974. Parts A, B, C, and D stayed the same.

A new *Part E, Urban and Rural Housing Characteristics*, was added.

Supplement report number 1 was changed to *Part F, Financial Characteristics by Indicators of Housing and Neighborhood Quality*.

1978. Parts A, C, D, and E stayed the same.

Parts B and F from earlier years were combined into a new *Part B, Indicators of Housing and Neighborhood Quality by Financial Characteristics*. A new *Part F, Energy-Related Housing Characteristics* was added.

1985. Parts A, B, C, D, E, and F were combined into one report, *American Housing Survey for the United States*.

A new report was added, *Supplement to the American Housing Survey for the United States*, with data on family types, neighborhood quality, commuting, and ownership of additional residential units.

1997. The supplement to the American Housing Survey for the United States was discontinued.

Buildings and neighborhood.

1987. As a result of using both decentralized telephone interviewing and Computer-Assisted Telephone Interviewing (CATI) in the 1987 AHS-National sample and later, data for several observation items (where the interviewer, rather than the respondent, supplied the data) are not comparable with those reported in the 1985 AHS-National sample. Data for the observation items for units assigned to telephone interviewing were collected only if the sample unit was located in a multiunit structure. Data for the following items in 1987 and later national surveys are restricted to units in a multiunit structure: “Stories in

structure;" "External building conditions;" "Description of area within 300 feet;" "Age of other residential buildings within 300 feet;" "Other buildings vandalized or with interior exposed;" "Bars on windows of buildings;" "Condition of streets;" and "Trash, litter, or junk on streets or any properties." Data for these items were shown for all units in the 1985 national survey, including single-family homes.

The data for these items in the 1987 American Housing Survey–Metropolitan Sample (AHS-MS) are incorrect because of the inadvertent use of the American Housing Survey–National (AHS-N) weighted sample cases for certain items where AHS-N cases should not have been used. In many cases, estimates of not reported are too high and in other categories are too low. These items include: "Stories in structure;" "External building conditions;" "Description of area within 300 feet;" "Age of other residential buildings within 300 feet;" "Mobile homes in group;" "Other buildings vandalized or with interior exposed;" "Bars on windows of building;" "Condition of streets;" and "Trash, litter, or junk on streets or any properties."

1989, 1991, and 1993. Because of the methods for weighting the metropolitan samples in 1989, 1991, and 1993, the weighted totals in the metropolitan reports in odd-numbered years for a few items are different from the rest of the items. These are as follows: "Stories in structure;" "External building conditions;" "Description of area within 300 feet;" "Age of other residential buildings within 300 feet;" "Mobile homes in group;" "Other buildings vandalized or with interior exposed;" "Bars on windows of building;" "Condition of streets;" and "Trash, litter, or junk on streets or any properties." In odd-numbered years, other items use a combined metropolitan/national (national is conducted only in odd numbered years) weighted sample; the above items only use a metropolitan weighted sample. See Appendix B for a complete description of combined weighting.

1997. These items ceased being collected by interviewer observation; they have become questions for the respondents. The intent of interviewer observations had been to provide a source of data on housing conditions, independent of the respondents, because these items could be directly observed by the interviewers. While neither respondents nor interviewers are trained building inspectors, and they reported data on different subjects, the data at least gave independent points of view by two people for each housing unit. Furthermore, the observations were collected even at units where interviews could not be obtained, so they could be used in research on the representativeness of AHS noninterview adjustments (which are explained in Appendix B).

As noted above, observations became impossible for many single-unit structures in 1987. Starting in 1997, staff no longer visit many multiunit buildings either, so the

observation items have become questions. The survey could continue to collect observations when visits are done for some other purpose, but the results would be too biased to be useful (high turnover units, subdivided units, and units where the respondent requests a personal interview).

Citizenship.

2001. In the 2001 survey, all households were asked the country of birth questions. This new question series was asked of all existing household members. These questions include:

- In what country was ... born?
- Is ... a citizen of the United States?
- Was ... born a citizen of the United States?
- Did ... become a citizen of the United States through naturalization?
- When did ... come to live in the United States?

Codebooks.

Documentation of codes on data files has been published in various volumes. The *Codebook for the American Housing Survey, Public Use File: 1997 and Later*, provides detailed descriptions of the public use file variables and descriptive text covering survey procedures. Codebooks for earlier years are also available.

All codebooks are available electronically at HUD USER (see <www.huduser.org/datasets.ahs>).

Common stairways.

2007. The question series pertaining to common stairways with loose steps or railing was deleted (applied only to multiunit buildings with 2 or more floors).

Computer-assisted interviewing.

1987–91. Large-scale experiments in computer-assisted telephone interviewing (CATI) were conducted as part of the 1987–91 AHS-National sample (CATI was not used in metropolitan surveys, though some of those interviews were completed on paper by telephone from the interviewer's home). Preliminary analysis of the CATI experiments indicated that CATI has a significant effect on the data. The experiments revealed that data for characteristics of owner-occupied housing, urban housing, and housing with moderate physical problems exhibited high numbers of significant differences between CATI and non-CATI estimates. The moderate physical problems subgroup had the highest incidence of significant differences. The analysis also showed significant differences for total occupied, suburban housing units, and moved in past year.

CATI estimates were generally lower than non-CATI for units with water leakage, monthly housing costs as percent of current income, other heating fuel, and owners

with a mortgage. However, CATI produced higher estimates for utilities paid separately, income, and shared ownership. Other characteristics that showed significant differences between CATI and non-CATI estimates include routine maintenance costs and heating equipment.

Little is known about whether CATI or non-CATI produces better data. The Census Bureau believes, however, the estimates of change in AHS-National sample between 1985 and later years will be biased for many characteristics as a result of introducing CATI. See also the topics “Buildings and neighborhood” and “Telephone interviewing.”

1995. CATI was conducted for returning national sample households whenever possible to the extent that CATI staff was able to handle the workload.

1997. The Census Bureau eliminated the paper questionnaire. All interviews were conducted by computer-assisted interviewing (CAI) using laptop computers. Both the survey questions and the skip instructions (that is, telling the interviewer which questions to ask next) were programmed into the laptop. The field representatives either phoned or made a personal visit to the respondent to conduct the interview. The interview questions were displayed on the computer screen one at a time. The programming of the skip instructions eliminated the possibility that the field representative would not follow the correct path and ask inappropriate questions (for example, asking about monthly rent at an owner-occupied unit).

Caution is recommended when comparing prior years’ data with 1997 and beyond because of this change to a laptop computer environment. For a number of reasons, the change could give different responses. The laptop incorporated a wide range of improvements that had been identified during 2 years of research and testing. Skip patterns involved complex branching and calculations that would not have been appropriate with a paper questionnaire. By using the laptop, field representatives found it almost impossible to skip appropriate questions. Online editing features reduced errors at the point of data collection. Feedback of telescoping (the reporting of events in the current data collection that were and should have been reported during an earlier time period) reduced the number of incorrect answers. These changes should improve the quality of the data.

2007. The AHS upgraded the laptop to Blaise for Windows system.

Condition of streets.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Current interest rate.

1990 and 1993. In the 1993 national and 1990 metropolitan surveys, a programming error was discovered and corrected involving the computation of the median for the

item “Current interest rate.” Use caution when making comparisons with earlier surveys. The medians presented in the earlier reports were calculated incorrectly. However, the data distributions are correct and can be used to compute corrected medians.

Dependent interviewing.

Dependent interviewing is the process by which data from surveys conducted in previous years are used instead of, in addition to, or to verify data collected during the current interview. The first use of dependent interviewing in AHS was for the item “Year structure built” in the year 1984.

1984. A new procedure was introduced for the collection of data on the year the structure was built. The answer obtained for the year the structure was built during the current survey interview was compared to any valid answers obtained in previous interviews for the same housing unit. If the answers differed, the answer from the previous interview was used in processing and tabulating the data.

1987. A new procedure was introduced for the collection of data on square footage. If the interview was at a housing unit that was successfully interviewed in the previous survey, the question on square footage was not asked. Instead the respondent was asked, “Since (date of the previous interview), has there been a change in the amount of living space in this (house/apartment) because of putting on an addition, finishing an attic, or converting a garage to living space?” If the respondent answered no, the data on square footage from the previous interview was used in processing and tabulating the data. If the respondent answered yes, the amount of added or lost space was obtained from the respondent and added to or subtracted from the square footage obtained in the previous interview. This new figure was then used in processing and tabulating the data.

1999. Some questions were modified to verify answers with valid answers obtained during the previous survey’s interview. If the current interview was being conducted with the same household at the same housing unit, the respondent was asked if the answer given in the previous survey interview was still correct. Only if the respondent answered “no” was the question for the current year asked. If the respondent said the previously collected information was correct, the information from the previous interview was used in processing and tabulating the data. The modified questions concerned:

- Kitchen equipment, including cooking stove or range, burners, microwave oven, refrigerator, kitchen sink, garbage disposal, trash compactor, and dishwasher
- Washing machine and clothes dryer
- Public sewer

- Source of water
- Drilled or dug well
- Central air conditioning
- Main heating equipment
- Exposed wiring and rooms without electric outlets
- Fuels used for house heating, cooking, clothes dryer, hot water, and central air conditioning
- Porch, deck, or patio
- Lot size
- Foundation
- Other manufactured/mobile homes on property
- Stories in structure and stories from main entrance
- Value
(Value was verified if the current value was 35 percent higher or lower than the value reported in the previous interview.)

Other questions were not asked if a valid answer was obtained in a previous interview and if the current interview was at the same housing unit. In this case, the answers from the previous interview were used to process and tabulate the data. These questions included:

- Mobile home site placement
- Year built
(Year built was verified if the residence was currently owner occupied but renter occupied during the previous interview. Otherwise, it was not asked, and the previous survey's answer was used.)

If the current interview was for the same household at the same housing unit, then another set of questions was asked if a valid answer was not obtained in a previous interview. The answers from the previous interview were used to process and tabulate the data. These questions included:

- Previous occupancy
- Year unit acquired and how unit acquired
- First-time owner
- Source of down payment
- Purchase price or construction cost

2001. Cooking fuel was the only question modified to verify its answer when a valid answer was obtained during the previous survey's interview. Some questions were not asked if a valid answer was obtained in a previous interview and if the current interview was at the same housing unit. In this case, the answers from the previous interview were used to process and tabulate the data. These questions included:

- Structure type
- Spouse of a person
- Relationship of person to reference person

2003. Additional questions were not asked if a valid answer was obtained in a previous interview and if the current interview was at the same housing unit. In this case, the answers from the previous interview were used to process and tabulate the data. These questions included:

- U.S. citizen
- Country of birth
- Year came to live in U.S.

2005. A few additional questions were not asked if a valid answer was obtained in a previous interview and if the current interview was at the same housing unit. In this case, the answers from the previous interview were used to process and tabulate the data. These questions included:

- Bodies of water within 1/2 block of unit
- Unit in a flood plain
- Community recreational facilities available

2007. Some questions were modified to verify answers with valid answers obtained during the previous survey's interview. If the current interview was being conducted with the same household at the same housing unit, the respondent was asked if the answer given in the previous survey interview was still correct. Only if the respondent answered "no" was the question for the current year asked. If the respondent said the previously collected information was correct, the information from the previous interview was used in processing and tabulating the data. The modified questions concerned:

- Unit is a condo
- Unit is waterfront property
- Method used to anchor mobile home
- Type of mobile home foundation
- Walls/fences surrounding community
- Entry system required to access building
- Entry system required to access community
- Age restricted development
- Apartment buildings within 1/2 block
- Buildings w/ bars on windows within 1/2 block
- Business/institutions within 1/2 block
- Factories/other industry within 1/2 block

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- Single-family town/row-houses within 1/2 block
 - Parking lots within 1/2 block
 - Single-family homes within 1/2 block
 - Railroad/airport/4-lane highway within 1/2 block
 - Garage or carport included with unit
 - Owner/resident manager lives on-site
 - Neighborhood stores within 15 minutes
 - Neighborhood stores within 15 minutes
 - Type of sewage disposal

Description of area within 300 feet.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

1992. In the 1992 metropolitan surveys, two programming errors were discovered and corrected involving the observation item “Description of Area Within 300 Feet.” The first error was that the stub line “Only single-family detached” had been tallied incorrectly since the redesign of the survey (1984). Therefore, data from 1984–91 in the metropolitan reports are not comparable with data for 1992 and beyond. The second error was that the stub line “Not observed or not reported” had been incorrectly tallied from 1986–91. Data for this stub line from 1986–91 are not comparable with data for 1992 and beyond.

Education.

1995. The question was revised to give less detail for people with less than a high school education and more detail for people with college degrees and advanced vocational training, to be consistent with the decennial census and other surveys.

2007. *Academic comparison to other area elementary schools.* A question was added to ask how the respondent thinks their public elementary school compares academically to other public schools in the area.

Also see the topic “Public elementary schools.”

External building conditions.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Flush toilet breakdowns.

1998. There was an error in the computer program for the laptop in 1997. As a result, data on flush toilet breakdowns were not collected. In 1998, the error was corrected and data were published.

Fuels.

2007. The question series pertaining to other house heating fuels was deleted.

Table C-1. **Comparison of 1990 Geography-Based Weighting to 1980 Geography-Based Weighting—All Housing Units: 2001**

| Characteristic | Total | In MSAs | | Outside MSAs | Urban | | Rural | | |
|-------------------------------------|---------|----------------|---------|--------------|--------|--------------|--------|---------|--------------|
| | | Central cities | Suburbs | | Total | Outside MSAs | Total | Suburbs | Outside MSAs |
| 1990 GEOGRAPHY AND WEIGHTING | | | | | | | | | |
| Total Housing Units | | | | | | | | | |
| Total | 119,117 | 35,076 | 57,983 | 26,058 | 86,657 | 8,765 | 32,460 | 14,814 | 17,293 |
| Seasonal | 3,078 | 184 | 982 | 1,913 | 823 | 203 | 2,256 | 522 | 1,710 |
| Year-round | 116,038 | 34,892 | 57,001 | 24,145 | 85,834 | 8,562 | 30,204 | 14,292 | 15,583 |
| Occupied | 106,261 | 31,731 | 53,574 | 20,957 | 79,146 | 7,469 | 27,115 | 13,321 | 13,488 |
| Owner | 72,265 | 16,870 | 39,420 | 15,975 | 49,500 | 4,841 | 22,764 | 11,384 | 11,133 |
| Renter | 33,996 | 14,861 | 14,153 | 4,982 | 29,646 | 2,627 | 4,351 | 1,938 | 2,355 |
| Vacant | 9,777 | 3,161 | 3,427 | 3,188 | 6,688 | 1,094 | 3,089 | 970 | 2,095 |
| For rent | 2,916 | 1,326 | 933 | 657 | 2,466 | 349 | 450 | 137 | 308 |
| For sale only | 1,243 | 341 | 496 | 406 | 825 | 146 | 418 | 156 | 261 |
| Rented or sold | 731 | 234 | 341 | 156 | 550 | 70 | 180 | 93 | 86 |
| Occasional use/URE | 2,594 | 537 | 910 | 1,146 | 1,457 | 336 | 1,137 | 325 | 810 |
| Other vacant | 2,293 | 724 | 747 | 823 | 1,389 | 193 | 904 | 260 | 630 |
| 1980 GEOGRAPHY AND WEIGHTING | | | | | | | | | |
| Total Housing Units | | | | | | | | | |
| Total | 119,117 | 35,079 | 56,058 | 27,980 | 83,016 | 9,143 | 36,101 | 17,090 | 18,837 |
| Seasonal | 3,037 | 185 | 1,178 | 1,674 | 871 | 158 | 2,166 | 642 | 1,515 |
| Year-round | 116,079 | 34,894 | 54,879 | 26,306 | 82,144 | 8,985 | 33,935 | 16,449 | 17,321 |
| Occupied | 106,408 | 31,633 | 51,352 | 23,423 | 75,553 | 8,016 | 30,855 | 15,293 | 15,407 |
| Owner | 72,365 | 16,254 | 38,227 | 17,884 | 46,456 | 5,099 | 25,909 | 13,006 | 12,785 |
| Renter | 34,042 | 15,379 | 13,125 | 5,539 | 29,097 | 2,917 | 4,945 | 2,287 | 2,621 |
| Vacant | 9,672 | 3,261 | 3,528 | 2,883 | 6,591 | 969 | 3,080 | 1,156 | 1,915 |
| For rent | 2,885 | 1,356 | 955 | 573 | 2,426 | 306 | 459 | 190 | 267 |
| For sale only | 1,230 | 355 | 507 | 369 | 815 | 132 | 416 | 179 | 237 |
| Rented or sold | 752 | 256 | 338 | 158 | 547 | 62 | 205 | 106 | 96 |
| Occasional use/URE | 2,537 | 525 | 932 | 1,081 | 1,384 | 276 | 1,153 | 346 | 805 |
| Other vacant | 2,267 | 769 | 795 | 703 | 1,419 | 193 | 848 | 335 | 510 |

Geography.

2001. Starting in 2001, the data used for the national books were changed by switching from 1980 census-based geography to 1990 census-based geography. This change affected the following geography data items that are used in the weighting procedures:

- Central city, suburb, or nonmetropolitan
- Urban or rural

Table C-1 provides weighted counts of housing units using 1980 geography and the 1980 weights, versus 1990 geography and the 1990 weights. The microdata file will continue to show only 1980 geography for confidentiality reasons.

Head of household/householder.

1980. Beginning in 1980, the concept “head of household” was dropped and replaced by “householder.” The head of household was the person regarded as the head as reported by the respondent; however, if a married woman living with her husband was reported as the head,

her husband was considered the head. The householder is the first household member listed by the respondent who is 18 years old or over and is an owner or renter of the sample unit.

Heating equipment.

1989. The heating equipment questions were revised to improve the reporting of electric heat pumps as a heating source. Previously, the questionnaire item dealing with the type of heating equipment underreported electric heat pumps. The respondents often answered yes to the first option of “a central warm-air furnace with air vents or ducts to the individual rooms” and did not proceed to the option of “electric heat pump.” The questionnaire item was revised to determine if the central air system is actually a heat pump or another type of warm-air furnace.

Hispanic origin.

2003. In accordance with Office of Management and Budget (OMB) directives, the order of the Hispanic origin and the race question were reversed (placing Hispanic origin before race). Also see the topic “Race.”

Home equity loans. See the topic “Mortgage.”

Housing costs and value.

1984. Value, mortgage data, and taxes are shown for all owners; rent is shown for all renters; and utilities are shown for both groups. From 1973–83, these items were shown only for “specified” owners and renters. For comparability, Table 19 in each chapter of books published since 1984 still shows data separately for “specified” owners and renters. “Specified” homes exclude 1-unit buildings on 10 or more acres and owners in buildings with 2 or more units or with a business or medical office on the property.

Also, the terminology changed. The new term “Monthly housing costs” includes the old terms “Selected monthly housing cost” for owners, “Gross rent” for renters, and “Contract rent” for vacant-for-rent units.

1989. The monthly housing costs items for subsidized renters were revised to improve the reporting of actual rental costs. In 1987, the questionnaire determined the total amount reportedly paid for monthly rental costs. These amounts may have included the partially subsidized amount provided by the public housing authority, the federal government, or state and local governments. Beginning in 1989, a probe was added for subsidized households to determine what they actually paid. The new procedures in 1989 produced lower and more accurate estimates.

Also see the topics “Income,” “Mortgage,” “Rent Reductions,” and “Utilities.”

1995. Mortgage payments were estimated when the respondent did not know the amount. These payments were estimated by amortizing each mortgage at level payments over its full term. If the amount borrowed is unknown, it is imputed first from the value of the house. If the interest rate or term were unknown, it would be imputed from owners who got their mortgages in the same year. This change eliminates a large source of missing data. While not perfect, it gives a much more complete picture of housing costs than in previous years.

1997. A “Separate category,” depending on income of the occupants, was added for vacant-for-rent units. In these units, the rent charged will depend on the income of the occupants, such as in public housing or some military housing. In 1995 and earlier, the category “less than \$100” includes an estimated 166,000 housing units where the rent depended on income of the occupants. They have a code 1 in the microdata. These units were incorrectly published as “less than \$100” from 1985–96.

Housing unit definition.

1984. One major and one minor difference appear in the housing unit definition. The major difference is that since 1984, the AHS includes vacant mobile homes as housing units. Vacant mobile homes added an additional 698,000

seasonal and 642,000 year-round vacant units to the 1985 national housing inventory. The 1973–83 AHS excluded these units from weighted counts, though they are included in the microdata with zero weight.

A minor difference in the definition is the 1973–83 requirement that a housing unit must have either direct access from the outside or through a common hallway, or complete kitchen facilities for the exclusive use of the occupants. In 1984, the complete kitchen facilities alternative was dropped, leaving direct access required of all units.

Another issue was the definition of group quarters. In the 1973–83 AHS, a household containing five or more people unrelated to the householder was considered to be group quarters. In 1984, the cutoff was changed to nine or more people unrelated to the householder.

2005. In 2005, a new definition of a “housing unit” was used. It came out of the Census 2000 Coverage Redesign. It was used to stay consistent with the Current Population Survey (CPS) and other current demographic surveys whose data are collected by the U.S. Census Bureau. The Census Bureau required in the old 1990 sample design that the occupants (1) live and eat separately from other people on the property and (2) have direct access from the outside or a common hallway. The Census Bureau has modified the first condition in the new 2000 sample design definition by dropping the words “and eat.” The occupants must merely “live separately from all other people on the property.”

How the housing unit was acquired.

1997. Beginning in 1997, all homeowners were asked how they obtained their home. The homeowners’ responses were stored on the national microdata file but not published in the national book. The possible answers to the new question include:

- Buy a house already built.
- Sign a sales agreement that included the land as well as the cost of building the house (includes both units that were under construction and those not yet started).
- Build it yourself on your own land (includes person acting as own general contractor; also includes lease land).
- Receive it as a gift or inheritance.

2001. The year the data were first published in the national book.

Income.

1984. See the topic “Poverty.”

1989. Two new items, “Monthly housing costs as percent of current income” and “Ratio of value to current income,” replaced similar items that were published in 1984–88. For income, these new items use “Current income.” In

1984–88, the items “Monthly housing costs as percent of income” and “Value-income ratio” used the “Income of families and primary individuals in the last 12 months.” See Appendix A for the definitions of “Current income,” “Monthly housing costs as percent of current income,” and “Ratio of value to current income.” Use caution when comparing prior years’ data with 1989 because of the differences in the definitions.

For comparative purposes, Table C-2 shows monthly housing costs as a percent of both income in the last 12 months and of current income. For total households and owner households, the medians for housing cost as a percent of income are the same regardless of types of income.

For renter households, the medians are 29 and 27 percent, respectively.

Table C-2. **Monthly Housing Costs as a Percent of Income**

| Characteristic | Median (percent) | | |
|---|------------------|-------|--------|
| | Total | Owner | Renter |
| Monthly housing costs as percent of income using— | | | |
| Income in the last 12 months: | | | |
| 1987 | 22 | 18 | 29 |
| 1989 | 21 | 18 | 29 |
| Current income: | | | |
| 1989 | 21 | 18 | 27 |

1993. Questions on income sources were revised in an effort to improve income reporting. The question in earlier surveys reported interest or dividend income of \$400 or more. In 1993, it was divided into two questions: one on any interest, the other on any dividends from stocks, regardless of amount. Therefore, both new questions cover even small amounts.

Wage and salary income was underreported for some people and households in the 1993 national survey. The error occurred during the processing of the data collected by computer-assisted telephone interviewing. When the respondent does not know or refuses to report wage and salary income, income is normally allocated during the processing. In 1993, this income was not allocated, but was incorrectly processed as “zero” (no) income. This error was corrected in the 1995 national survey. Although the income data for 1993 are incorrect, analysis of median household income for 1991, 1993, and 1995 indicates that the overall effect of this error on 1993 data is minor, though it significantly increases the apparent number of households with zero income.

Use caution when making income comparisons before and after the 1993 survey.

1999. Income was collected for all people 16 years and older in the household. In previous surveys, income was collected for all people 14 years and older in the household.

2005. After redesigning the AHS in 1997, the Census Bureau and the U.S. Department of Housing and Urban Development compared the income data collected in that survey with those found by the Current Population Survey (CPS).¹ That study found that the AHS reported fewer households with nonwage income than the CPS, and that AHS respondents tended to report self-employment income as wages. Furthermore, AHS users requested that disability-related income sources be reported separately from other sources to make it easier to count the number of households with disabled persons. The 2005 AHS addressed these findings and requests by adopting a series of income questions similar to the questions used in the American Community Survey (ACS).² Prior to 2005, respondents were asked the wages and salaries of each person in the family, and all other sources of income were collected as a single amount for the family as a whole. The 2005 questions collected an amount for each person in the family from nine different types of income (such as wages and salaries or social security). In addition, for each nonrelative (a person not related to the householder), the 2005 questionnaire was changed to ask about wages, self-employment, and other income separately. Prior to 2005, nonrelatives were asked only to report their total income. The AHS chose to adopt the ACS questions because they had already been tested and to facilitate comparisons between the two surveys.

The approach for obtaining household and family income prior to 2005 AHS resulted in reported income that was generally lower than in other surveys. The new income questions were intended to increase the amount of income reported. Comparisons of median household income from the 2003 and 2005 AHS, the 2005 CPS Annual Social and Economic Supplement (ASEC, 2004 income), and the 2004 ACS (2004 inflation adjusted income) indicate that goal may have been achieved overall. Median AHS household income rose 1 percent more than inflation from 2003 to 2005—from \$41,775³ to \$44,834⁴ (rising 7 percent while inflation was 6 percent). Median household income from

¹ See Susin, Scott. 2003. “Discrepancies Between Measured Income in the American Housing Survey (AHS) and the Current Population Survey (CPS): Final Report.” <www.census.gov/hhes/income/hudmemo8a.pdf>.

² The AHS adopted the income categories used in the 2003 ACS with one change. Disability-related payments were accorded a separate item in the AHS, while the ACS included these types of payments with retirement and survivor pensions.

³ The margin of error at the 90-percent confidence level is +/- \$265.

⁴ The margin of error at the 90-percent confidence level is +/- \$289.

the 2005 ASEC was \$44,389,⁵ not statistically different from the 2005 AHS median household income. Finally, a median household income from the 2004 ACS was \$44,684,⁶ also not statistically different from the 2005 AHS median household income.

Comparing receipt of income by source for the 2005 AHS and the 2003 AHS (see Table C-3) shows that the percent reporting wages and salaries and the percent reporting social security or retirement at the family level, while statistically different, are generally comparable. On the other hand, the percent reporting interest, dividend, and rental income is much lower in 2005 than in 2003. One possible explanation for the difference in reporting of interest, dividend, and rental income is that the 2003 AHS included separate questions on receipt of interest, dividend, and rental income, while the 2005 AHS question combined interest, dividend, net rental income, royalty income, and income from estates and trusts into one income category.

⁵ The margin of error at the 90-percent confidence level is +/- \$322.

⁶ The margin of error at the 90-percent confidence level is +/- \$214.

Table C-4 shows that at the person level, reporting of specific types of income in the 2005 AHS and the 2004 ACS is generally comparable except for reporting of interest, dividend, rental, etc., income and "other" income where the percent reporting in these categories is less in the 2005 AHS.⁷ The 2003 AHS had two separate questions about income from "other" sources, such as VA payments, unemployment compensation, child support, or alimony, whereas the 2005 AHS reduced this to one question.

Another difference between the 2003 AHS and the 2005 AHS was a new edit and allocation system for the income questions. The 2005 AHS used "regression-based" hot decks that allow more information to be used to provide a better match between donors and donees. In other words, an income-predicting regression assigns donors and recipients to cells in the hot deck matrix. Preliminary analysis indicates that the edit and allocation system has a minor effect on the percent receiving income types (see Table C-5).

⁷ Please note that the ACS is primarily a mailout/mailback survey with telephone and personal visit interviews for a subsample of people who did not mailback their forms. The AHS, by contrast, is conducted solely through personal visit and telephone interviews.

Table C-3. Reciprocity Rates for People in Families by Income Type: 2003 and 2005 AHS

| Income type | Percent by income type | | | Notes on change from 2003 to 2005 |
|--|------------------------|----------|------------|---|
| | AHS 2005 | AHS 2003 | Difference | |
| Social security and retirement. | 0.289 | 0.269 | 0.020 | Social security and pensions were combined in 2003, split into two questions in 2005. |
| Wages and salaries | 0.747 | 0.785 | -0.037 | |
| Social security | 0.256 | ... | ... | |
| Interest, dividends, rental income. | 0.162 | 0.318 | -0.156 | These were three questions in 2003, combined into one in 2005. |
| Supplemental security income (SSI) | 0.038 | ... | ... | ... |
| Welfare | 0.022 | 0.047 | ... | Welfare and SSI were combined in 2003, split into two questions in 2005. |
| Workers' compensation | 0.049 | 0.030 | 0.019 | |
| Self-employment | 0.131 | 0.095 | 0.036 | In 2003, question referred to business income. In 2005, it refers to self-employment. |
| Other income | 0.068 | 0.103 | -0.036 | Other income and alimony were two questions in 2003, combined into one in 2005. |
| Sample size | 43,360 | 48,197 | ... | |

... Not applicable.

Table C-4. **Income Reciprocity Rates by Type of Income and Survey**

| Income type | 2004 ACS | 2005 AHS |
|--|----------|----------|
| Wages (all adults) | 65.5 | 62.9 |
| Householder and relatives | ... | 62.1 |
| Nonrelatives of householder | ... | 76.7 |
| Self employment (all adults) | 7.0 | 7.8 |
| Householder and relatives | ... | 8.0 |
| Nonrelatives of householder | ... | 5.8 |
| Interest | 16.1 | 10.4 |
| Social security | 17.6 | 18.6 |
| Supplemental security income | 2.1 | 2.2 |
| Public Assistance | 1.3 | 1.2 |
| Retirement | 9.7 | 8.7 |
| Other income (all adults) | 7.6 | 4.5 |
| Householder and relatives | ... | 3.8 |
| Nonrelatives of householder | ... | 11.9 |
| Workers' compensation | ... | 2.7 |

... Not applicable.

Note: For the ACS, persons “with receipt” of income type are counted if they reported either “yes” to the reciprocity question or reported an amount in the question for amount of that income type. Also note, the ACS data are weighted, and the AHS data are not weighted since the latter has no person weights.

Table C-5. **Income Receipt Rates for Individuals by Imputation Status: 2005 AHS**

| Income type | Full sample | | Reported | | Imputed | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| | Pro-portion | Sample size | Pro-portion | Sample size | Pro-portion | Sample size |
| Social security | 0.187 | 80,615 | 0.187 | 76,272 | 0.184 | 4,343 |
| Wages and salaries | 0.615 | 80,615 | 0.617 | 76,991 | 0.590 | 3,624 |
| Retirement | 0.087 | 80,615 | 0.087 | 76,209 | 0.091 | 4,406 |
| Interest, dividends, rental income | 0.104 | 80,615 | 0.104 | 75,329 | 0.103 | 5,286 |
| Supplemental security income | 0.022 | 80,615 | 0.022 | 76,306 | 0.022 | 4,309 |
| Welfare | 0.012 | 80,615 | 0.012 | 76,443 | 0.011 | 4,172 |
| Workers' compensation | 0.028 | 80,615 | 0.028 | 76,344 | 0.029 | 4,271 |
| Self-employment | 0.079 | 80,615 | 0.080 | 76,473 | 0.056 | 4,142 |
| Other income | 0.038 | 80,615 | 0.039 | 76,306 | 0.027 | 4,309 |

Note: Data are unweighted and exclude nonrelatives of the householder.

2007. Based on the comparisons and analysis of income results of the 2003 and 2005 AHS data collections, two of the 2005 income types were reset back to their original 2003 income types:

- “Interest, dividend, and rental income” was split into three separate income types—“Interest,” “Dividend,” and “Rental Income.”
- “Other” income was split into “Child support or alimony” and “Other.”

Since extra effort is used to obtain the estimate of income of families and primary individuals in the last 12 months as compared to their income for the future 12 months, the income used in the calculation of “Monthly housing costs

as percent of current income” and “Ratio of value to current income” was changed to the income of families and primary individuals in the last 12 months. If this amount is not available, then the family’s expected income is used. The method used in 1989–2005, used the income of families and primary individuals in the last 12 months only if the expected income was not reported, which occurred 90 percent of the time.

Income sources.

1993. See the topic “Income.”

2001. In the questions used to inventory the cash benefits a person received over the past 12 months, the answer category “Receive SSI/AFDC/Other Welfare” was changed to “Receive SSI, Public Assistance, or Welfare Payments, such as [state TANF program name].” Individual states used different names for their Temporary Assistance to Needy Families (TANF) programs, so the question wording varied by state. This was done to update the source of income questions because the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 replaced the AFDC assistance program with TANF.

2004. Whether or not a resident of the housing unit received SSI payments was collected in a separate category. In 2003 and earlier, the receipt of SSI payments was collected in a combined category that included public assistance and welfare payments.

2005. *Alimony or child support and all other income* includes alimony—money received periodically from a former spouse after a divorce or legal separation; child support—money received for the support of children not living with their father/mother as the result of a legal separation; and all other income—unemployment compensation, Veterans Administration (VA) payments, contributions received periodically from people not living in the household, military family allotments, and other kinds of periodic income other than earnings.

Interest, dividends, or net rental income includes interest on savings or bonds, dividends from stockholdings or membership in associations, net income from rental of property to others, receipts from boarders or lodgers, net royalties, and periodic payments from an estate or trust fund.

2007. *Child support or alimony.* Alimony is money received periodically from a former spouse after a divorce or legal separation. Child support is money received for the support of children not living with their father or mother as a result of a legal separation.

Interest; Dividends; and Rental income.

Interest is money received or credited to checking and savings accounts, money market funds, certificates of deposit (CDs), IRAs, KEOGHs, and government bonds.

Dividends are money received, credited, or reinvested from ownership of stocks or mutual funds.

Rental income is money (profits or losses) received from renting land, buildings, real estate, or from roomers or boarders.

All other income. All other income includes unemployment compensation, Veterans Administration (VA) payments, contributions received periodically from people not living in the household, military family allotments, and other kinds of periodic income other than earnings.

Items dropped.

2007. See the topic “Questionnaire.”

Items published for the first time.

2007. See the topic “Questionnaire.”

Kitchen.

1984. Short questions are asked about each aspect of a complete kitchen; previously only one long question was asked. The 1984 approach finds more homes missing some part of the kitchen than the old longer question did.

In vacant units, the definition was changed. Previously, if the respondent said the kitchen was incomplete, but the future tenant would be expected to complete it (for example, occupant provides a refrigerator), as is the practice in some areas, such a kitchen was counted as complete. Starting in 1984, it is counted as incomplete. Both approaches have problems, but the newer approach was chosen as preferable.

Between 1983 (old question and instruction) and 1985 national (new questions and instruction), the estimate of occupied units with incomplete kitchens changed 59 percent from 827,000 to 1,316,000. The estimate of vacant units with incomplete kitchens changed 274 percent from 665,000 to 2,490,000. Much of this change is assumed to be a result of the changes in the questions.

Starting in 1984, units reported in the category “Complete kitchen facilities” in the printed books had to have an oven. For the microdata files, an oven was not required to be included in the category “Complete kitchen facilities” (under “Equipment”). The definition of “Complete kitchen facilities” in Appendix A of the printed books incorrectly omits that the oven was required in the publication.

1997. The questions concerning each component of kitchen facilities were redesigned in 1997. Prior to 1997, the questions the respondents answered contained a definitional instruction to the field representative that the equipment was for this household’s use only. The field representative, however, did not read this instruction to the respondent. Beginning in 1997, the instruction “this household’s use only” is no longer a part of the question

for each kitchen component. In its place, the field representative asked, when the respondent lived in a unit in a multiunit structure, if any of the kitchen equipment was shared with another household. This change caused large increases in the number of units lacking complete kitchen facilities and large decreases in the number of units with complete kitchen facilities.

Lead paint.

2001. The lead paint questions were dropped. These questions were asked in all housing units built before 1978 to collect data on signs of lead paint hazards (for example, peeling paint, paint chips, and so forth). They also asked if the household was notified of lead paint hazards.

Light fixtures in public halls.

2007. The question series pertaining to the presence of light fixtures in public halls and their working order was deleted (applied only to multiunit buildings with 2 or more units in structure).

Line of credit. See the topic “Mortgage.”

Living rooms, recreation rooms, etc.

1985. Living rooms, recreation rooms, etc. includes family rooms, dens, recreation rooms and/or libraries.

2005. In the 1997–2003 AHS total inventory tables (1A-6, 1B-6, 1C-6, and 1D-6) for the item “With 2 or more living rooms or recreation rooms, etc.” under Selected Amenities, an error was made in the table specifications. The item was intended to include living rooms, recreation rooms, dens, and family rooms. These data do not include family rooms. The error was not made in the occupied chapters for Table 7. The error was corrected for the 2005 AHS publication.

Location of previous unit.

1995. 1995 data were suppressed because it was not possible to code the metropolitan area of the previous unit consistently with the location of the current unit. The data involved comparing the metropolitan area of the previous residence with the current residence’s location. The AHS current residence is coded by its 1983 metropolitan area (see Appendix A for the definition of “Metropolitan areas”). Since 1993, the Census Bureau has not been able to code the previous residence with comparable 1983 boundaries because of updated geographic coding systems. Therefore, this item has been suppressed to avoid spurious changes. (The 1993 national data were not suppressed, but it is unclear whether they were correctly coded.)

1999. In 1999, the item was dropped from the publication.

Lodgers.

1984. A new series of questions concerning lodgers was introduced. Lodgers were defined as household members 14 years or older who are not related to the householder, not co-owners or co-renters, and are not a spouse or child of a co-owner or a co-renter. The respondent was asked if the lodger(s) paid a regular, fixed rent and, if so, what the dollar cost was and if it included food. The questions were intended to measure the cost of housing for the lodger(s). In this, as well as earlier and later years, any lodger's rent received by the householder should be reported as rental income, but it is not certain whether householders do or did so.

1985. The phrase "as a lodger" was added to the questions concerning rent paid. The universe for these questions remained the same, but the wording was changed to make the question clearer.

1993. Questions concerning nonrelative housing costs were added to replace the questions about lodgers. This change modified not only the questions in the survey but also the universe. The new questions were targeted to all household members 14 years or older who are not related to the householder. The new questions included any housing costs paid by the nonrelative (not only rent).

1995. The nonrelative sharing housing costs questions were dropped and the lodger questions used in the 1985 survey were reintroduced using the 1984 definition of lodgers.

1997. The questions concerning lodgers were asked in accordance with the 1984 definition of lodgers. In addition, these questions were also asked of adult relatives. An adult relative is defined as a relative 21 years or older who is not a co-owner or co-renter and is not a spouse of a co-owner or co-renter. The data for these adult relatives are available on the microdata, but the publication only reflects data collected from the lodgers.

1999. Lodger questions were no longer asked of adult relatives (see 1997 above). In addition, the age cutoff in the definition of lodger was changed from 14 years or older to 16 years or older. See also the definition "Rent paid by lodgers" in Appendix A.

Main house heating fuel.

1999. In 1997, the type of gas used (piped versus bottled) as a main house heating fuel was inadvertently omitted for vacant housing units. In 1999, the distinction was reinstated.

Manufactured/mobile homes.

1984. Manufactured/mobile homes with attached permanent rooms began to be counted as mobile homes, while previously they were counted as single-family units.

Manufactured/mobile homes with attached permanent rooms are identified separately in the microdata. See the topic "Housing unit definition."

1985. See the topic "Weighting."

2005. A question was added to determine if a manufactured/mobile home is single-wide, double-wide, or triple-wide (or larger).

Married-couple families.

1985 and 1987. The published 1985 and 1987 national estimates of married-couple families with no nonrelatives were overestimates resulting from a processing error. The 1985 overestimate was approximately 340,000, while the 1987 overestimate was 407,800. The overestimated married-couple families with no nonrelatives should have been tabulated under two-or-more-person households as either "other male" or "other female" householders. This error was corrected in 1989. Table C-6 provides corrected figures for 1987.

Table C-6. **Estimate of Married-Couple Families With No Nonrelatives and Other Two-or-More-Person Households: 1987**

| Characteristic | Estimate |
|--|------------|
| Married-couple families, no nonrelatives | 50,084,000 |
| Other two-or-more-person households | 18,853,000 |
| Male householder | 6,421,000 |
| Female householder | 12,432,000 |

Metropolitan areas and central cities.

1984. Books and microdata started using 1983 boundaries. This change increased the number of metropolitan units, especially suburbs, and decreased the number of nonmetropolitan units. These boundaries were established in 1983 based on population and commuting patterns measured in the 1980 census. Therefore, the 1984 AHS metropolitan boundaries are not comparable to those in the 1980 census publications.

National microdata started showing central city and suburban status in all cases. Also, cases in more areas have the identifying code for their area shown because of less strict confidentiality constraints than in the past (areas of 100,000 population may be identified; the previous rule was 250,000).

Metropolitan microdata always identify the total area surveyed, but not necessarily the newer central cities, to protect confidentiality. When an area of less than 100,000 people was added to an AHS Metropolitan survey, sample cases were added there, and extra sample cases also were added in part of the old area, so no one would know which cases were in the small added area.

From 1973–83, all books and microdata had consistently used 1971 boundaries of metropolitan areas and cities. These were called Standard Metropolitan Statistical Areas (SMSAs). The criteria were published by the U.S. Bureau of Budget in *Standard Metropolitan Statistical Areas, 1959*. The boundaries were published by the U.S. Bureau of Budget in *Standard Metropolitan Statistical Areas, 1967* (which also reprinted the criteria), and some boundaries were revised in the Office of Management and Budget’s (formerly U.S. Bureau of the Budget) *Second Amendment*, February 23, 1971. These same boundaries were used in publications from the 1970 census.

Note that major revisions in official SMSA boundaries (but not AHS boundaries) were made in 1973 using results of the 1970 census; additional revisions were made during the 1970s. More major revisions occurred in 1983 using results of the 1980 census. Therefore, the AHS revision in 1984 reflected the cumulative result of 12 years of changes in official definitions.

1995. Starting in 1995, most metropolitan surveys use new samples and new boundaries, which for the first time may differ from standard boundaries published by the Office of Management and Budget. A list of exactly which counties (towns in New England) are covered in each metropolitan survey each year is printed in each metropolitan book.

2001. Data in the 2001 AHS National publication are weighted using 1990 census-based geography. However, data on the 2001 microdata file are weighted using 1980 census-based geography.

2003. Data in the 2003 AHS National publication are weighted using 2000 census-based geography. However, data on the 2003 microdata file are weighted using 1990 census-based geography.

Monthly housing costs.

1984, 1989, and 1995. See the topic “Housing costs and value.”

2007. In prior years the data tables in the publication showed the top size category was \$1,500 or more. In 2007, additional size categories are shown. The resulting top category is now \$2,500.

Mortgage.

1999. The “reverse mortgage” item under “Mortgages currently on property” was eliminated. In 2001, this item was reinstated.

2001. The collection of data for reverse mortgages was reintroduced in 2001. In addition, new mortgage questions were added and modifications were made to existing mortgage questions to more clearly delineate home-equity

loans from regular mortgages, as well as to clearly differentiate between home-equity lump-sum loans and home-equity lines of credit. In addition, more detailed information was collected on home-equity lump-sum loans than in the past.

In 1997 through 1999, respondents were asked if they had a regular (other than a home equity) mortgage. If they answered “yes,” they were asked how many regular mortgages they had. Respondents were also asked if they had a home-equity loan. If they answered “yes,” they were asked how many home-equity loans they had.

Detailed characteristics were collected on the first three regular mortgages. One of the regular mortgages was determined to be the primary mortgage. Data were also collected on the first three home-equity loans; although, not as much detail was collected on home-equity loans as was collected on regular mortgages. One of the home-equity loan questions was if the home-equity loan was a lump-sum line-of-credit.

In 2001, separate counts of lump-sum home-equity loans and lines-of-credit home-equity loans were obtained. As in 1997 through 1999, respondents were asked if they had a regular mortgage and if “yes,” how many. Next they were asked if they had a lump-sum home-equity loan and if “yes,” how many. Finally, they were asked if they had a home-equity line-of-credit and if “yes,” how many.

Detailed characteristics were collected for both regular mortgages and lump-sum home-equity loans in 2001. The detailed characteristics continued to be collected on the first three mortgage loans with regular mortgages having priority over lump-sum home-equity loans. For example, if the respondent had two regular mortgages and two lump-sum home-equity loans, the detailed data were collected on the two regular mortgages and the first lump-sum home-equity loan reported. In addition, regular mortgages also took priority in being designated the primary mortgage. For example, if the respondent reported one regular mortgage and one lump-sum home-equity loan, the regular mortgage was considered to be the primary mortgage. If, however, the respondent only reported having a lump-sum home-equity loan, the lump-sum home-equity loan was designated the primary mortgage. The data collected for home-equity lines-of-credit loans remained the same in 2001 as in 1997 through 1999.

2003. Several programming errors were discovered and corrected in the mortgage edits. These errors primarily affect households that indicated they had a second mortgage but provided little information about it (i.e., had a high level of item nonresponse to the second mortgage questions). The errors typically caused such households to have their second mortgage blanked and also changed the characteristics of the first mortgage.

Compared with data with the erroneous edits, the estimated number of households having two or more mortgages increased by 147,000 (1.64 percent). Most of these

households would have otherwise been coded as having one mortgage only; the number of households with one mortgage decreased by 134,000 (-0.39 percent). Again, compared with data with the erroneous edits, the corrections decreased by 11,000 (0.04 percent) the number of households with units owned free and clear; increased by 21,000 (0.04 percent) the number of households with a regular mortgage; and increased by 5,000 (0.13 percent) the number with a lump-sum home-equity mortgage. The number of home-equity lines of credit was not affected.

The biggest differences in the characteristics of mortgages are for the “Not reported” categories (many of the mortgage variables are not allocated). More than an estimated 100,000 not reported households were added for several of the mortgage items.

All these differences are relatively minor when compared with the total estimates for any given category. As a result, 2001 mortgage data will not be corrected. Users are cautioned, however, that both underestimates of mortgages and their characteristics exist in the published 2001 American Housing Survey data. These errors do not affect survey years prior to 2001.

Neighborhood.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Neighborhood shopping.

1997. Starting in 1997, the respondent was asked if there was satisfactory neighborhood shopping (grocery stores or drug stores) and, if yes, were any within 1 mile of the respondent’s home.

2007. The question was revised to ask if any grocery stores or drug stores are within 15 minutes from the respondent’s home. If the response was yes, they were asked if these stores are satisfactory.

New construction.

1976, 1977, and 1978. The figures for 1973–76 new construction, 1973–77 new construction, and 1973–78 new construction published in the 1976, 1977, and 1978 national books are incorrect. These figures were corrected in 1979 and published in *Part A, General Housing Characteristics for the United States and Regions: 1979*, series H150/79.

1984. In 1984 and later AHS reports, the characteristics of new construction units are based on units constructed during the last 4 years. Prior to 1984, characteristics of new construction were based on units built since the last survey year. In the national survey, this was a 1-year period, except for the 1983 survey, which covered a 2-year period. In the metropolitan survey, this varied from being a 3- to 4-year period.

Nonrelative income.

2005. Before 2005, for household members who are not related to the reference person, income questions asked for “total income earned before deductions in the past 12 months.” Since 2005, the period (12 months) remained the same, but income questions were subdivided into three parts, inquiring about income earned from employer wages and salary, self-employment, and other sources of income.

Other buildings vandalized or with interior exposed.

1987, 1989, and 1997. See the topic “Buildings and neighborhood.”

Other housing costs per month.

1995. A processing error was discovered and corrected involving the category “Homeowner association fee paid.” The “Homeowner association fee paid” data in 1993 and earlier were incorrect and should not be used. The 1995 data are correct.

1999. Several processing errors were discovered and corrected for the category “homeowner association fee paid.” The 1997 and 1998 data published for this category are incorrect. In 1997 and 1998, “homeowner association fee paid” was incorrectly tallied for mobile homes. In addition, the processing of data for units that are not mobile homes was done incorrectly. The 1997 and 1998 data should not be used. The 1999 data are correct.

Parking lots.

2005. The question on whether the use of parking lots in the respondent’s neighborhood is restricted to residents who live in the neighborhood.

Persons other than spouse or children.

1993. See the topic “Lodgers.”

Plumbing facilities. Use caution when making comparisons among any of the surveys after 1983.

1984. Changes in the questionnaire resulted in serious deficiencies in plumbing data. In 1983 and earlier, respondents were asked a question on complete plumbing facilities that specified to the respondent the components necessary for complete plumbing (that is, hot and cold piped water, a flush toilet, and a bathtub or shower). The question further ensured that these facilities were only for the use of the occupants of the unit in which they were located (exclusive use). In those units with complete plumbing, an additional question was asked as to how many bathrooms there were.

Starting in 1984, respondents were first asked how many full bathrooms they had. If they answered one or more, questions on plumbing facilities were not asked; the unit was assumed to have complete plumbing facilities for

exclusive use. Although the 1984–87 definition of a bathroom specified hot and cold piped water, a sink, a flush toilet, and a bathtub or shower, this definition was not read to the respondent. Also, nothing in the question required the bathroom to be only for the use of the occupants of the sample unit (exclusive use). We believe that the 1984–87 AHS counted a significant number of units as having complete plumbing for exclusive use because respondents for these units reported having a bathroom when, in fact, either the bathroom did not contain all plumbing facilities, or the facilities were shared by people living in another unit. Based on previous years' AHS data, we believe the "completeness" was more of a problem than "exclusive use."

The table on plumbing facilities was suppressed in books starting in 1985 (though data were still included in severe physical problems, see Table C-7). Data for 1984 were published but are incorrect.

1989. Beginning in the 1989 national survey (1990 metropolitan surveys), the questionnaire items on bathrooms and plumbing were modified to provide more accurate estimates. Respondents were asked, "How many full bathrooms with a sink, with hot and cold piped water, a flush toilet, and a bathtub or shower does this house/apartment have?" Also, an additional question was asked, "Are the bathrooms for this household's use only?" If the respondent reported no bathrooms, detailed questions on each required plumbing facility were asked separately.

In 1989, there were 3,139,000 year-round housing units in the United States lacking complete plumbing facilities for exclusive use. Prior to 1985, there was a downward trend of units lacking complete plumbing facilities, with 1983 showing 2,233,000 such units. Units lacking plumbing may not have increased between 1983 and 1989, for the 1989–91 figures may be too high, as noted below in the discussion of changes in 1993.

Units lacking complete plumbing facilities are included in the count of units with severe physical problems. The number of units with severe physical problems may have been underestimated in both national and metropolitan surveys in 1984–90. It also appears the units with moderate problems may have been overestimated.

There was an unrealistic increase in units with severe problems in the United States between 1985–89 because of redesigning the plumbing facilities question, and then an unrealistic drop in 1993. Occupied housing units with severe problems went from 1,559,000 in 1985 to 3,161,000 in 1989 and 1,901,000 in 1993. There was a simultaneous decrease in moderate problems, from 5,814,000 in 1985 to 4,442,000 in 1989, which may be unrealistic, but no corresponding increase in 1993. Figures are shown in Table C-7. This increase also affected medians as Table C-8 shows

Table C-7. Measures of Plumbing and Other Problems

| Year | Year-round units with plumbing problems | Occupied units with selected physical problems | | | |
|------|---|--|-----------|-------------------|--|
| | | Severe problems | | Moderate problems | Total with severe or moderate problems |
| | | Plumbing ¹ | Total | | |
| 1973 | 3,573,000 | 2,471,000 | | | |
| 1974 | 3,036,000 | 2,281,000 | | | |
| 1975 | 2,706,000 | 2,076,000 | | | |
| 1976 | 2,661,000 | 1,944,000 | | | |
| 1977 | 2,542,000 | 1,805,000 | | | Not published |
| 1978 | 2,503,000 | 1,791,000 | | | |
| 1979 | 2,353,000 | 1,715,000 | | | |
| 1980 | 2,359,000 | 1,753,000 | | | |
| 1981 | 2,375,000 | 1,760,000 | | | |
| 1983 | 2,233,000 | 1,621,000 | | | |
| 1985 | ... | 660,000 | 1,559,000 | 5,814,000 | 7,373,000 |
| 1987 | ... | 574,000 | 1,224,000 | 5,184,000 | 6,408,000 |
| 1989 | 3,139,000 | 2,529,000 | 3,161,000 | 4,442,000 | 7,603,000 |
| 1991 | 2,849,000 | 2,278,000 | 2,874,000 | 4,531,000 | 7,405,000 |
| 1993 | 1,814,000 | 1,379,000 | 1,901,000 | 4,225,000 | 6,126,000 |
| 1995 | 1,993,000 | 1,459,000 | 2,022,000 | 4,348,000 | 6,370,000 |

... Not applicable.

¹Lacks any of the following, inside the structure, for exclusive use of occupants of this housing unit: hot piped water, cold piped water, flush toilet, bathtub (shower is an acceptable alternative).

Table C-8. **Types of Units With Severe Physical Problems**

| Median | 1985 | 1989 |
|----------------------------|------|-------|
| Year structure built | 1938 | 1955 |
| Rooms | 4.0 | 4.8 |
| Square footage | 948 | 1,389 |

1993. In 1993, questionnaire item 29c on bathrooms for exclusive use was modified to provide more accurate estimates. The wording of the answer options to this question was changed to specify whether or not there was exclusive use of the facilities. This change appears to have caused a one-third drop in plumbing problems, compared to 1991, and a similar drop in severe physical problems. Although the decrease between 1991 and 1993 seems unrealistic, the change in the 1993 questionnaire probably resulted in a better estimate.

1997. The definition of a complete bathroom was removed again from the original question (as in 1985–87), although the definition was still available in a help screen. Later in the questionnaire, for homes with only one bathroom, AHS asked specifically if the bathroom had hot and cold water, flush toilet, and bathtub or shower.

For households with more than one toilet, the 1997 questionnaire mistakenly asked about times when *the* toilet was unusable, instead of times when *all* toilets were unusable. The 1997 breakdown data and counts of moderate physical problems may therefore include many units where another toilet was indeed usable.

1998. See the topic “Flush toilet breakdowns.” Poverty.

1984. The AHS provides housing characteristics for households with income below the poverty level. The AHS poverty data are not comparable to poverty data published from the Current Population Survey (CPS). Table C-9 presents the differences.

Table C-9. **Households in Poverty in AHS and CPS: 1985, 1987, and 1989**

| Year | AHS | CPS |
|----------------------|------------|------------|
| 1985 | 13,266,000 | 11,996,000 |
| 1987 | 11,969,000 | 11,807,000 |
| 1989 | 12,403,000 | 11,369,000 |
| 1985–87 change | -1,297,000 | -189,000 |
| 1987–89 change | 434,000 | -438,000 |

Compared with the CPS, the AHS drop in poverty between 1985 and 1987 seems too large. The 1987–89 AHS increase in poverty may be, in part, a compensation for the unrealistic 1985–87 drop.

In general, AHS estimates of poverty are higher than the CPS estimates. Research indicates that the AHS slightly underreports income when compared with the CPS, thus

overreporting poverty. Furthermore, the problem seems to be concentrated among elderly households. A detailed discussion of AHS poverty data is presented in the Census Bureau memoranda for the record, “AHS Poverty Data, 1985 to 1989” and “Comparison of the 1989 AHS and CPS Income Reporting.” Copies can be obtained by writing to the Housing and Household Economic Statistics Division, U.S. Census Bureau, Washington, DC 20233.

Analysts are reminded that poverty data are published in the AHS, not as an official count of households in poverty, but to show the housing characteristics of low-income households.

2004. Starting in 2004, we made two changes in the metropolitan microdata files to the method of counting the number of children and adults in the poverty calculations. First, nonrelative children who are household members and under the age of 18 years are now counted as children. Prior to 2004, nonrelative children were counted as adults. Second, the poverty line is defined only for households of nine persons or less. Before 2004, in large households (with more than nine persons), children had been counted first toward the ratio of children to adults within the household. For example, a household with six children and six adults had been treated as a household with six children and three adults for the purpose of calculating poverty. This was changed to count adults first, thus changing this example to six adults and three children.

These changes affected a fairly large number of cases. In the 2003 national data, 5.1 percent of households had their number of children changed by the new procedures. However, they had an extremely small effect on the number of households in poverty. Had this change been implemented in 2003, it would have reduced the number of households in poverty by 29,000, a reduction of 0.03 percentage points (from 13.19 percent to 13.16 percent).

Primary mortgage refinanced, reason.

See the topic “Reasons for refinancing the mortgage.”

Public elementary school.

1997. Satisfaction with the public elementary school was no longer asked at all households with children under 17. It was only asked if the household had a child 13 years old or younger. This change was caused by a desire to focus on households that would be most knowledgeable about elementary schools. A mistake prevented covering all such households.

1999. In 1998 and earlier years, the question on type of school attended was asked of households with children ages 4 to 16. In 1999, the question was asked of households with children ages 5 to 15. The answer category “does not attend school” was replaced with “schooled at home.” However, instructions to the field representative defined both answer categories as the same, meaning children who did not attend school were entered into the “schooled at home” category.

2001. In 2001, a new answer category “Not in school” was added in the school item.

2007. Respondents who report an unsatisfactory public elementary school are no longer asked if they are so bothered by it that they want to move.

Also see the topic “Education.”

Public transportation.

1997. For the first time questions were asked about the availability and use of public transportation in the respondent’s neighborhood. If the respondent answered yes to the availability of public transportation, the question was asked if it was satisfactory. Respondents were then asked if any household member used public transportation at least once a week. If the answer was no, then the question was asked if anyone in the household ever used public transportation.

2001. In 2001, a new item “Does anyone in the household ever use public transportation?” was added to the public transportation series.

2007. The public transportation question series was reduced from four to three parts. The first question remained the same as 1997, establishing if there was public transportation for the respondent’s area. The next question asked if anyone in the respondent’s household used public transportation regularly for commuting to work or school. If the answer was yes, then a third question was asked regarding how many minutes it takes to get to the nearest bus stop, train station, or subway stop from the respondent’s home.

Questionnaire.

1984. A new questionnaire was introduced in 1984. Most of the changes on the questionnaire were made to improve the quality of the data. As a result, however, several items in 1984 and beyond are not comparable to similar data for 1973–83; a discussion of each item can be found in the appendix under the topic of the same name.

Items changed on 1984 questionnaire include:

- Units in structure
- Rooms in unit
- Plumbing facilities
- Kitchen
- Recent movers

Some new items were introduced in 1984, including lot size, square footage, units with severe or moderate problems, elderly householder, heating-degree days (national sample only), and detailed information on mortgages. For detailed definitions of these and other items, see Appendix A.

1987. A major procedure change in collecting data is the use of the Computer Assisted Telephone Interview (CATI) system. In 1987, half of the sample was assigned to CATI.

The other half was interviewed by phone where possible from the interviewer’s home, as done in 1983 AHS National. For the CATI half-sample, units that were vacant, refused to be interviewed (Type A noninterviews), were not currently intended for occupancy (Type B noninterviews) or did not have telephones in 1985, were not eligible for CATI and were assigned to field interviewers for interviews. Also ineligible were units with different occupants than in 1985 or units now vacant or not intended for occupancy. The purpose of CATI was to investigate alternative interviewing techniques, to make use of centralized interviewing, to reduce the costs and data problems caused by field interviewer turnover, and to help eliminate the variations in the way interviews are conducted.

New items added:

One question was added to identify rental units that are rented for short periods of time to persons with a permanent residence elsewhere, such as vacationers.

Items deleted:

Adequate police guard

1989.

Items changed:

Heating equipment questions were revised to improve the reporting of electric heat pumps as a heat source and to make the questions more comparable to the heating equipment questions asked on other census surveys.

Electricity and gas costs questions for regular occupied units were revised as a result of continuing research into AHS response variance problems and to comply with the request OMB made as part of the 1998 AHS-MS clearance to implement bias elimination techniques for the utility costs data questions.

1991.

New items added:

Questions were added to identify occupied units for rent or for sale.

Mobile home questions were added to improve our knowledge about mobile home placements.

A question was added to determine to what extent a second home is on the active rental market.

Homeless Questions were added to identify household members who have recently been homeless.

1995. There is an expanded definition of “Monthly housing costs” as it relates to vacant units. For a detailed definition of this item, see “American Housing Survey for the United States in 1995” report, Series H150/95.

New items added:

- Rooms used for business

- Homes currently for sale or rent
- Safety of primary source of water
- Source of drinking water
- Rent paid by lodgers
- Home equity loan
- New race categories
- Educational attainment of the householder
- Sample size

Items deleted:

- Location of previous unit
- Nonrelatives shared housing costs
- Years of school completed by the householder (replaced by educational attainment of the householder)

1997.

Items changed:

Buildings and neighborhood items were not collected anymore from interviewer observation; they were reworded as questions for the respondents.

Computer-assisted telephone interviewing (CATI) was fully implemented in the 1997 AHS using laptop computers. See the topic “Computer-assisted interviewing.” The paper questionnaire was eliminated.

Housing costs, a separate category, “Depending on income of the occupants,” was added for vacant-for-rent units. In these units, the rent charged depended on the income of the occupants, such as public housing or military housing.

Lodgers, both relatives and nonrelatives age 21 and older who are not (co-)owners or (co-)renters and who are not spouses of (co-)owners or (co-)renters, were asked the housing cost questions. The same questions were asked in 1984 with the addition of whether the person was an employee of the household or contributed to costs (asking separately about contributions for utilities, mortgage/rent, groceries, and other costs).

Plumbing facilities. The definition of a complete bathroom was removed as part of the question; although, the definition was still available in a help screen. Later in the questionnaire, for homes with only one bathroom or none, a specific question asked if it had hot or cold water, toilet, and tub or shower.

Public elementary school. Satisfaction with the public elementary school was no longer asked of all households with children under 17. It was limited to only households with children up to 13 years old or younger. This change focused on households most knowledgeable about elementary schools.

Wiring. Plastic coverings were counted as acceptable, along with metal coverings, since the building industry accepts them. This change should reduce the count of exposed wiring compared with 1995.

New items added:

- Trash compactor to the list of appliances
- Reverse mortgage
- More detail on home equity loans
- Smoke, gas, or bad odors category to neighborhood conditions
- Identification of custom-built homes
- Public transportation
- Whether appliances are in working order
- Lead paint
- Rugs or carpeting in the home
- Wall-to-wall carpeting in the home
- Parallel and supplement heating and cooling systems

Items deleted:

- Age of appliances
- Modifications to homes to accommodate persons with physical limitations and type of disabilities.

Items reinstated:

- Adequate police protection

1999.

Items changed:

Dependent interviewing was greatly expanded in 1999. For a discussion of dependent interviewing and a list of the data items affected, see the topic “Dependent interviewing.”

The procedures for collecting data were changed for four items. See the topics “Income,” “Lodgers,” “Public elementary schools,” and “Rooms in units.” A correction was made for vacant housing units to the item “Main house heating fuel.” See the topic “Main house heating fuel.”

Income was collected for all people in the household 16 years and older. In previous survey years, income was collected for all household members 14 years and older.

Lodgers. Lodger questions were no longer asked of adult relatives. In addition, the age cutoff was changed from 14 years or older to 16 years or older.

Public elementary schools. In 1998 and earlier years, the question on type of school attended was asked of households with children ages 4 to 16. In 1999, the question was asked of households with children ages 5 to 15. The answer category “does not attend school” was replaced with “schooled at home.” However, instructions to the field representative defined both answer categories as the same, meaning children who did not attend school were counted in the “schooled at home” category.

Rent reductions are tabulated differently from how it was tabulated in earlier years. See same topic in Appendix C in the 1999 AHS National report: H150/99.

Rooms in unit. In 1999, tallying room counts by floor was eliminated. Instead, room counts by each housing type were collected for the housing units as a whole. Also, a probe was modified to ensure that one-room units were not underreported. These changes resulted in higher estimates of one-room units with no bedrooms. For a complete discussion of the 1999 procedural change, see same topic in Appendix C in the 1999 AHS National report: H150/99.

Year householder moved into unit. In 1999, a change was made in the way these data were processed. The change allows the “year the householder moved in” to be earlier than the year the structure was built for mobile homes. The change was made in order to accommodate mobile home householders who purchased a new mobile home but were still living on the same site, making the year their structure was built later than the year they moved in.

New items added:

- Bodies of water within 300 feet
- Building and ground maintenance
- Building neighbor noise
- Location of extra unit
- Nights owner spent at extra unit
- Nights owner rented extra unit
- Reasons for extra unit owned
- Renter maintenance quality

(See definition under **Extra unit** in Appendix A.)

Items deleted:

- Adequate inside maintenance
- Buildings and grounds properly maintained
- Reverse mortgages

2001.

Items changed:

Income sources. In the questions used to inventory the cash benefits a person received over the past 12 months, the answer category “Receive SSI/AFDC/Other Welfare” was changed to “Receive SSI, Public Assistance, or Welfare Payments such as [state TANF program name].” Individual states used different names for their Temporary Assistance to Needy Families (TANF) programs, so the question wording varied by state.

Other finished rooms. The range for “Other finished rooms” was increased from 0–5 to 0–10. The question records the number of “other finished rooms” the respondent reports having in the home.

“Farmers Home Administration” was changed to “Rural Housing Service/Rural Development or RHS/RD”

“Mobile homes” was changed to “Manufactured/mobile homes”

Primary mortgage. Beginning in 2001, a lump-sum home-equity loan can be considered a primary mortgage. See also the topic “Mortgage.” Appendix A gives a complete definition of primary mortgage.

Public transportation. A new item “Does ... ever use public transportation?” was added to the public transportation series.

Schooling. Questions on public elementary school included a new answer category, “Not in school,” in 2001.

New items added:

- Access to structure from the outside without climbing up or down any steps
- Cash received in primary mortgage refinanced
- Citizenship of householder
- Community quality
- Current line-of-credit interest rate
- Did ... become a citizen of the United States through naturalization?
- Gated and secured communities
- In what country was ... born?
- Is ... a CITIZEN of the United States?
- Land contract
- Line-of-credit amount used for home additions, improvements, or repairs
- Line-of-credit monthly payment
- Percent of nonrefinanced primary mortgage, including home-equity lump-sum used for home purchase and improvement
- Percent of primary mortgage refinanced cash used for home additions, improvements, or repairs
- Percent of the loan used for the purchase of the home or additions, improvement, or repairs to the home
- Private mortgage insurance payment amount last year
- Reason primary mortgage refinanced
- Reverse mortgages
- Secured communities
- Secured multiunits
- Senior citizen communities
- Total home-equity line-of-credit limit
- Total outstanding line-of-credit loans
- Use of (line of credit) funds for additions, improvement, or repairs to this home
- Was ... born a citizen of the United States?
- When did ... come to live in the United States?

- Year householder immigrated to the United States

Deleted items—Data on painted surfaces were dropped from the AHS. In 1999, data on this topic were published as microdata.

The lead paint questions were deleted.

2005.

New items added:

- *Access to structure.* A question was added to determine if access to the housing unit from the outside was possible without climbing up or down any steps.
- *Manufactured/mobile home size.* A question was added to determine if the manufactured/mobile home was a single-wide, double-wide, or triple-wide unit.
- *Special living.* Questions were added to identify the types of assisted living services offered at multiunit complexes.

Merged items:

Stories in structure. Three questions asking about the height of the apartment buildings within half a block of the home were merged into one question. For a detailed definition of stories in structure, see Appendix A.

Changed items:

- An additional choice for *Reasons for leaving previous unit:* Evicted from residence.
- An additional choice for *Primary mortgage was refinanced:* To reduce the monthly payment.
- Income categories were increased to nine different types of income for each person in the family, such as wages and salaries or social security.

Items deleted:

- Amount of savings and investments
- *Housing unit definition change:* Eating separately was dropped as a requirement of the housing unit definition.
- *Parking lots:* The question on *whether the use of parking lots in the respondent's neighborhood is restricted to residents* was dropped.

2007.

New items added:

- Academic comparison to other area elementary schools
- Down payment
- Fire safety equipment

Changed items:

- Income sources of family and primary individuals
- Neighborhood crime

- Neighborhood conditions
- Neighborhood shopping
- Odors
- Other heating equipment
- Other bothersome neighborhood conditions
- Public elementary school
- Public transportation
- Selected physical problems
- Special living
- Street noise or traffic

Items deleted:

- Common stairways
- Light fixtures in public halls
- Other heating equipment—used as parallel heating equipment or used as supplemental heating equipment

Race.

1995. Beginning in the 1995 national and 1996 metropolitan surveys, two new categories were added to this item: “American Indian, Eskimo, and Aleut” and “Asian and Pacific Islanders.”

2003. In 2003, multiple race classifications were introduced for the first time. The “Other” category was eliminated from the tabulation through the edit process. People were asked to respond to the question on race by indicating one or more of the six race categories. Respondents who chose only one race are referred to as the *race alone* population. Respondents who chose more than one of the six race categories are referred to as the *Two or More Race* population. Starting in 2003, AHS began using the complete CPS persons’ edits. These do not allow “Other” entries in race, but allocate one of the five specified response categories to those people reporting “Other” race. In the past, the “Other” race category contained write-in entries, such as “human being” and “brown.” Previously, many Hispanic householders (about 30 percent in 2001) stated that they were “Other” race, and 78 percent of the “Other” race householders were Hispanic. In 2003, although people may have reported themselves as “Other” race, the edits allocated them to a different race category. So, while over 7,000 people, 6,100 of whom were Hispanic, said they were “Other” race, the edits assigned a category of “White only” to 92 percent of the Hispanics who had reported “Other” race. However, this corresponds to what Hispanics say who report a race category.

Real estate taxes: average monthly cost paid for.

2007. In prior years, the top size category was \$200 or more. In 2007, additional size categories are shown. The resulting top category is now \$600 or more.

Reasons for leaving previous unit.

1998. There was an error in the computer program for the laptop in 1997. As a result, data for the categories “private displacement” and “government displacement” were not collected. In 1998, the error was corrected and data were published.

2005. The answer category “Evicted from residence” was added to the question asking for the reasons for the move from the last residence.

Reasons for refinancing this mortgage.

2005. One more answer choice “To reduce the monthly payment” was added to the list of reasons for refinancing current mortgage.

Recent movers.

1984. In the 1984 AHS and later, some of the data for recent movers are based on the householder’s characteristics and some are based on characteristics of the AHS respondent who may or may not be the householder. Before 1984, all recent-mover data were based on the householder’s characteristics.

Rent control.

1988. In 1988, the computer edits for the metropolitan samples were changed for units reporting rent control. The states of California, Connecticut, New Jersey, New York, and Massachusetts, as well as the District of Columbia, are the only states that have metropolitan areas with rent control. If a respondent answered “yes” to rent control in a metropolitan area not in one of the above mentioned states, the answer was edited to “no.” In survey years prior to 1988, answers of “yes” to rent control in metropolitan areas not in one of the above mentioned states are errors.

Rent reductions.

1999. In the publication, the item “Rent reductions” is tabulated differently for renter-occupied units from how it was in 1998 and earlier years. Although the tabulation was changed in the publication, the data on the microdata file for each component of this publication item remain the same. The change is not a result of any change in the data collection procedure.

Research after the 1998 survey has shown that it is possible for a unit to be both subsidized and either under rent control or having the rent reduced by the owner. For example, the respondent may receive a voucher from the government to help pay the rent and still live in a rent-controlled unit. The procedure used in 1997 and 1998

relied heavily on the respondents’ answers to the questions on rent control and owner reduction. As a result, a large number of units that could have been tallied as “Other, income verification” and therefore “subsidized” were not. A smaller but significant number of units were tallied as “Other, income verification,” which should not have been so classified.

The classification of units as “Other, income verification” in the AHS publications is dependent on the answers respondents gave to a long list of subsidy questions. The tabulations attempt to estimate the number of units that are believed to be subsidized, but for which the type of subsidy is unknown. Past research using AHS data has shown that many respondents are not sure if their units are subsidized or, if subsidized, what type the subsidy may be. A unit that is classified as “Other, income verification” could be a unit that is owned by a public housing authority, a unit receiving some other form of government subsidy, or a unit subsidized by a private organization.

In 1997 and 1998, the classification “Other, income verification” required that the respondent did not answer that the unit was owned by a public housing authority or was part of a specific type of subsidy program and also answered the following:

- “Yes” to the question: “As a part of your rental agreement, do you need to answer questions about your income whenever your lease is up for renewal?”
- Any answer except “A public housing authority or a state or local housing agency” to the question: “To whom do you report your income?”
- “No” to the question: “Do you pay a lower rent because the government is paying part of the cost of the units?”
- “No” to the question: “Does the government limit the rent on the unit through rent control or rent stabilization?”
- “No” to the question: “Is the rent adjusted because someone in the household works for or is related to the owner?”

In 1999, the tabulation procedures were changed. The classification “Other, income verification” now requires that the respondent did not answer that the unit was owned by a public housing authority or was part of a specific type of subsidy program, but did answer the following:

- “Yes” to the question: “As part of your rental agreement, do you need to answer questions about your income whenever your lease is up for renewal?”
- Either “A building manager or landlord” or “a public housing authority or a state or local housing agency” to the question “To whom do you report your income?”

Table C-10 presents 1999 rent reduction data using both the old procedures and the new 1999 procedures for renter-occupied units. The new procedures provide an improved count of the category "Other, income verification." The data using the old procedures should be used, however, when trying to measure historical change, especially between 1997 and 1999. Under the new tabulation procedure, there are 517,000 units that are classified as "Other, income verification" that under the old procedure were classified as:

- Renter control: 149,000
- Rent control not reported: 137,000
- Reduced by owner: 14,000
- Owner reduction not reported: 1,000
- Subsidy not reported: 216,000

Also, under the new tabulation procedure, there are 149,000 units that are classified as "Not reduced by owner" that were classified as "Other, income verification" under the old procedure.

Table C-10. **Rent Reductions Using Old and New Procedure for the United States: 1999**

| Category | Old | New |
|---|-------------------|-------------------|
| Total, renter occupied | 34,007,000 | 34,007,000 |
| No subsidy | 27,093,000 | 26,942,000 |
| Rent control | 1,033,000 | 884,000 |
| No rent control | 25,888,000 | 26,023,000 |
| Reduced by owner | 1,865,000 | 1,851,000 |
| Not reduced by owner | 23,905,000 | 24,054,000 |
| Owner reduction not reported | 118,000 | 117,000 |
| Rent control not reported | 173,000 | 36,000 |
| Owned by public housing authority | 1,865,000 | 1,865,000 |
| Government subsidy | 2,062,000 | 2,062,000 |
| Other, income verification | 1,910,000 | 2,277,000 |
| Subsidy not reported | 1,078,000 | 862,000 |

Replacements and additions.

2004. The question, "Was that wall-to-wall carpeting installed over existing, finished flooring, or was that put down over bare sub-flooring, such as concrete or unfinished wood?" was no longer asked. The question, "In the last two years, have you installed any wall-to-wall carpeting?" was still part of the survey.

Rooms in unit.

1984. The number of year-round units with one or two rooms in the United States dropped from 4,056,000 in 1983 to 2,486,000 in 1985. As a result, the median number of rooms per unit increased from 5.1 to 5.3; this does not necessarily indicate an increase in the average size of housing units. In the 1983 AHS, respondents answered a single question asking for a total count of rooms in the unit. The potential to miss specific rooms is high in a question of this type. In the 1984 and later surveys, respondents were asked for a count of each specific type of room. The answers to these questions were then added

together in the tabulations to provide a total count of rooms. Far fewer rooms were missed in this series of questions, which has apparently resulted in lower counts of one- and two-room units. It is also possible, however, that a few rooms may have been double counted. For example, a living room also may have been counted as a family room for a count of two rooms when only one room actually exists.

1997. Unfinished rooms were excluded from the published total number of rooms, but the count of unfinished rooms was available separately in the microdata. Respondents were asked for the number of rooms not only by type of room, but also by floor. Research had shown this approach was helpful for large homes, but it may have caused confusion and double counting in small homes.

1997, 1998, and 1999. The data for rooms published in 1997 and 1998 are not comparable to the data published in 1999 and before 1997. The approach used in 1997 and 1998 resulted in a much lower count of one-room housing units and housing units with no bedroom as shown in Table C-11.

Table C-11. **One-Room Units and Units With No Bedrooms in AHS: Selected Years**

| Area and year | One-room units | Units with no bedrooms |
|----------------------------------|----------------|------------------------|
| United States | | |
| 1999 | 624,000 | 1,250,000 |
| 1997 | 471,000 | 619,000 |
| 1995 | 862,000 | 1,519,000 |
| San Francisco-Oakland, CA | | |
| 1998 | 25,300 | 30,200 |
| 1993 | 35,500 | 73,900 |
| San Jose, CA | | |
| 1998 | 3,400 | 4,400 |
| 1993 | 4,900 | 8,800 |
| Tampa-St. Petersburg, FL | | |
| 1998 | 1,700 | 3,000 |
| 1993 | 3,800 | 8,900 |
| Salt Lake City, UT | | |
| 1998 | 400 | 500 |
| 1992 | 900 | 2,400 |
| Baltimore, MD | | |
| 1998 | 900 | 900 |
| 1991 | 2,800 | 5,200 |
| Cincinnati, OH-KY-IN | | |
| 1998 | 700 | 700 |
| 1990 | 4,600 | 7,500 |

The 1997-98 approach had the respondent count each type of room for each floor of the housing unit for a total of up to five floors (the fifth includes five or more floors). For example, a count of the total number of bedrooms was obtained for the first, second, third, fourth, and fifth floors. These counts were then added together to get a total count of bedrooms. This same procedure was followed for each type of room (living room, dining room,

family room etc.). The final room counts were then added together to get a total for the housing unit. In addition, a special probe at very small units (those with no bedrooms, baths or half bath, and kitchens) asked if any of these rooms were missed. These procedures evidently produced larger counts of rooms for the smaller units. The low counts in 1997 and 1998 of one-room units and units having no bedrooms do not reflect any change in the characteristics of the housing inventory that might have occurred between these years and earlier or later years. Housing units that should have been counted as one-room units or as having no bedrooms in 1997 and 1998 were counted as having more than one room and/or having one or more bedrooms.

In 1999, the procedure was changed. The room counts by floor were eliminated. Room counts of each type were collected for the housing unit as a whole. These room counts were added together to produce a total count of rooms. Also, the probe was modified to ensure that one-room units were not underreported. If the respondent reported that there were no bedrooms, no kitchens, and zero to one living room in the unit, the field representative did not probe about these rooms. The field representative also did not ask the respondent for a count of family rooms, recreation rooms, dens, laundry rooms, or any other furnished or unfurnished rooms. This reduced the possibility of a one-room unit being counted as a two-or-more room unit by erroneously reporting multiple uses of the same room (e.g., counting a one-room unit as having a living room and a bedroom because the only room was being used as both). The 1999 data for the United States are an improvement over what were collected in 1997 and 1998, but still may not be entirely comparable to the data collected prior to 1997.

2001. The range for “Other finished rooms” was increased from “0 to 5” to “0 to 10.”

Rooms used for business.

1999. As a result of a data collection error, data for this item in 1997 and 1998 were not published. In 1999, the previously suppressed items were corrected and published.

Sample.

1985. A new sample was chosen for the national survey from the 1980 census. The previous sample, selected from the 1970 census, was used from 1973–83. To the degree that the coverage of housing units is different between the 1970 and the 1980 censuses, comparisons of the results of the 1973–83 surveys with the results of the 1985 and later surveys may be affected.

1987. Houston had a new sample based on the 1980 census because AHS sampling techniques did not accommodate its rapid annexations. The previous sample was based on the 1970 census.

1995. A new sample was chosen for the metropolitan surveys from the 1990 census, except in six areas that were covered as part of the 1995 national survey, and therefore have samples based on the 1980 census. The previous metropolitan samples, based on the 1970 census, were used from 1974–94.

All samples are updated continuously to cover new construction. See also the topic “Weighting” and the discussion of “Sample design” in Appendix B.

Sample size.

1995. The item “sample size” was added to Table 2-1 of published books. The sample size shown in the book is the unweighted count of the actual sample cases. See Appendix B for a more detailed explanation on sample design.

School. See the topic “Public elementary schools.”

Selected geographic areas.

1995. The published data for the item “Selected Geographic Areas” in Table 2-1 were found to be incorrect for four of the 1995 metropolitan reports because of errors in processing. The problems with the data were as follows:

Chicago. The data for the three counties not listed in “Selected Geographic Areas” were incorrectly distributed among the data for the five counties that were listed. All published county data for Chicago were incorrect.

New York. The data for the three counties not listed in “Selected Geographic Areas” were incorrectly added to the data for the last county listed, Westchester County. Published data for the first seven counties listed were correct. Data for Westchester County were incorrect.

Northern New Jersey. The data for the first ten counties listed were published correctly. Data for the last county listed, Union County, was incorrectly left off the table.

Philadelphia. No data were published for Philadelphia.

Selected subareas and selected geographic areas.

2002. In the occupied chapters of the following 2002 American Housing Survey (AHS) publications, the data are incorrect for the boxhead columns “Selected Subareas” and the stub item “Selected Geographic Areas.” The metropolitan areas involved are: Anaheim-Santa Ana, CA; Buffalo, NY; Dallas, TX; Fort Worth-Arlington, TX; Milwaukee, WI; Phoenix, AZ; Riverside-San Bernardino-Ontario, CA; and San Diego, CA.

A processing error resulted in a significant number of cases not being tallied under the “Selected Subareas” columns and for the stub item “Selected Geographic Areas.” The data shown in the publications are underestimates for these items. The processing errors were corrected. Although there are no plans to issue new paper copies of

the publications, revised PDF copies can be seen on the Internet at the Census Bureau's Web site <www.census.gov/prod/www/abs/h170sma.html>.

Severe and moderate problems.

1989. The data concerning units with severe and moderate problems in the 1989 national survey (1990 metropolitan surveys) and beyond are not comparable with similar data published earlier. See the topic "Plumbing facilities." Units lacking complete plumbing facilities are included in the count of units with severe physical problems. The number of units with severe physical problems may have been underestimated during the 1985–89 national (1984–90 metropolitan) time period. During the same time period, units with moderate problems may have been overestimated.

Sewage disposal breakdowns.

1998. There was an error in the computer program for the laptop in 1997. As a result, data on sewage disposal breakdowns were collected for only 95 percent of the eligible households. Although the universe was incomplete, the data were published because the households answering the questions did so correctly. In 1998, the error was corrected and all eligible households were asked the questions.

Source of water.

1992. In 1985–91, respondents were asked if the source of water for their homes was a public or private system, an individual well, or some other source. Interviewer instructions specified that the question was concerned about the water used for cooking and drinking. This instruction was not read to the respondent. In 1992, the question changed and the interviewer instructions became part of the question. From 1992 forward, the number of units reporting "Some other source of water" increased, apparently as a result of the wording change in 1992. Therefore, data from 1985–91 and 1992 and later should be compared with caution.

1995. The title of this item changed to "Primary source of water," and the usage restriction "for cooking and drinking" was deleted from the question.

Special living.

2005. New questions were added to identify the types of assisted living services being offered at multiunit complexes. The questions ask whether the management of the building offers the following *services* to residents: meals, transportation, housekeeping; or *assistance* to residents: managing finances, aid with telephone, shopping, bathing, eating, moving about, dressing, and toilet use. *Services* for meals did not include meals in restaurants on the property that were open to the public. Meals may have been served in the unit or in a common area. *Services* for transportation included shuttles or vans provided by the property

management that operated on a fixed schedule or by previous appointment. Municipal buses or other private services (such as taxicabs) were not included. *Services* for housekeeping included linen services, cleaning in the unit and the like that are offered by the facility. Exterior maintenance to the property or housekeeping only performed in the hallways, lobbies, and common areas were not included. *Services* for managing finances included balancing checkbook, check writing and the like; these services must have been provided by the facility rather than through a social service or charitable agency, financial institution, or the like. *Personal services* included bathing, eating, moving about, dressing, and toilet use which were provided by the management of the building or through the facility. Excluded were assistance contracted directly by the units' residents or family, or assistance provided through a social service or charitable agency.

2007. Special living questions were changed so only respondents who reported assistance with meals, transportation, housekeeping, finance management, phone use, or shopping were asked about bathing, eating, moving about, dressing, or toilet use assistance.

Stairways.

See the topic "Common stairways."

Statistical areas.

1995. Beginning in 1995, the item "Statistical Areas" is no longer published in the metropolitan reports because of the complexity of matching geographic files over long periods of time.

Stories in structure.

1987, 1989, and 1997. See the topic "Buildings and neighborhood."

2005. Prior to 2005, respondents, thinking of apartment buildings, were asked if any apartment buildings within a half block were 7 or more stories tall. In 2005, the question was changed where respondents were asked how many stories were in the tallest building within a half block. Then the field representative placed the answer into 1 of the 3 categories—7 or more, 6 to 4, or 3 or less.

Telephone interviewing.

1981. Beginning in 1981, decentralized telephone interviewing was conducted in the national survey for a sample of units that were in sample during the previous enumeration. As a result of analysis conducted in both 1981 and 1983, the Census Bureau concluded that data collected using the decentralized telephone interviewing procedures were not sufficiently different from data collected by regular personal interviews to preclude basing published data on both telephone and personal interview data. Also see the topics "Buildings and neighborhood" and "Computer assisted interviewing."

Time sharing.

1993. A programming error was discovered and corrected for the item "Time sharing." In the 1991 national survey, the wrong universe was used. As a result, the published 1991 estimates of time-shared units were too low. Use caution when making comparisons with the 1991 AHS national survey and later national surveys.

Trash, litter, or junk on streets or any property.

1987, 1989, and 1997. See the topic "Buildings and neighborhood."

Units in structure.

1984. From 1973 through 1983, data on units in structure were based on the respondent's answer to one question, "How many living quarters, both occupied and vacant, are there in this house (building)?" In 1984 and beyond, data on units in structure were based on the respondent's answers to a series of questions. The method of collecting units-in-structure data was revised because previous AHS experience showed the concept to be difficult for the respondents. Respondents particularly had difficulty distinguishing between single-family, attached, and multiunit structures.

As a result of this change, the estimated number of one-unit attached structures declined in some MSAs between interview dates of 1984 and later, compared with interview dates prior to 1984. It is estimated that 1974 through 1983 AHS-MS surveys, on average, overestimated the numbers of one-unit, attached structures by approximately 25 percent. The level of overestimation may vary significantly between metropolitan areas. Units incorrectly classified as one-unit, attached in previous survey years are, in 1984 and beyond, correctly classified as being in multiunit structures.

The Census Bureau estimated that the 1983 AHS-National sample overestimated single-family, detached units by 125,000 and single-family, attached units by 696,000. The 1983 AHS-National sample underestimated units in multi-unit structures by approximately 898,000. Table C-12 provides revised levels of 1983-85 growth by adding 1983 overestimates and subtracting 1983 underestimates to the 1983-85 change shown in Table C-13.

Table C-12. **Revised Change in the Year-Round Housing Inventory by Units in Structure: 1983-85**

| Units in structure | 1983-85 change | Add 1983 over-estimate | Subtract 1983 under-estimate | 1983-85 revised change |
|---------------------------------|----------------|------------------------|------------------------------|------------------------|
| Single-family, detached | 1,744,000 | 125,000 | - | 1,869,000 |
| Single-family, attached | -2,000 | 696,000 | - | 694,000 |
| 2 or more units in structure . | 1,935,000 | - | 898,000 | 1,037,000 |

- Represents zero.

Table C-13. **Change in the Published Year-Round Housing Inventory by Units in Structure: 1983-85**

| Units in structure | 1983 | 1985 | 1983-85 change |
|---------------------------------|------------|------------|----------------|
| Single-family, detached | 57,029,000 | 58,773,000 | 1,744,000 |
| Single-family, attached | 4,453,000 | 4,451,000 | -2,000 |
| 2 or more units in structure . | 26,193,000 | 28,128,000 | 1,935,000 |

Urban, rural, and population

1985. From 1973-83, national books and data files use 1970 populations and 1971 boundaries to define urban and rural areas. Starting in 1985, national books and data files use 1980 populations and 1981 boundaries. 1990 and 1991 data are never used for this topic. (This topic only applies to national surveys, not metropolitan surveys.)

Utilities.

1989. Two procedures were introduced that attempt to correct the overreporting of electricity and gas costs in the AHS. In the first procedure, respondents were asked the amount of the electricity and/or gas bill for the previous months of January, April, August, and December. These months were the best predictors of annual costs. If the respondent provided data for at least 3 of the 4 months (1 month for recent movers), the results were used to provide an annual estimate of costs. This estimate was then divided by 12 to provide average monthly costs.

The backup procedure was applied to the remaining units. If the respondents did not know the amount of their electricity and/or gas bills for at least 3 of the 4 months, their estimate of average monthly costs was used. A factor was then applied that, in effect, lowered these costs to make the total cost from all households consistent with electricity and gas costs reported in the Residential Energy Consumption Survey (RECS) sponsored by the U.S. Department of Energy.

Before 1989, respondents were asked only to provide an estimate of average monthly costs. Research done using the 1987 AHS showed that this approach produces 15 to 20 percent overestimates of electricity and gas costs. The

new procedures in 1989 and later produce lower and more accurate estimates. On average, more than one-third of the respondents provided answers for at least 3 of the 4 months.

1993. The procedures introduced in 1989 were improved and expanded from two to three procedures.

Three separate procedures are used to estimate monthly costs of electricity and gas. All respondents are asked if they have records available showing their costs for electricity (or gas) separate from other utilities. If they respond “yes,” they are asked the amount of their electric (or gas) bill for the most recent recent months of January, April, August, and December. These months are the best predictors of annual costs. On average, more than one-third of respondents provide answers for at least 1 of the 4 months.

If the respondent provides data for only 1 month, the first procedure is used. The data for the month are adjusted using regression formulas to estimate yearly costs that are then divided by 12. These formulas are derived from the Residential Energy Consumption Survey (RECS) sponsored by the U.S. Department of Energy. These formulas take into account the following characteristics of the unit: the census division where it is located, electric heat, electric water heating, natural gas heat, natural gas water heating, year built, type of unit, number of rooms, number of bathrooms, number of appliances, and number of household members.

If the respondent provides data for 2, 3, or 4 months, the second procedure is used. As with the first procedure, the monthly data are adjusted using regression formulas, derived from the RECS data, to estimate yearly costs that are then divided by 12. Because more than 1 month’s worth of real costs are available, it is rarely necessary to take into account detailed characteristics of the unit as is done in procedure one. (In some cases where 2 months of data are provided, detailed characteristics of the unit are taken into account.)

If the respondent answers “no,” that he or she does not have separate records for the electricity (or gas), the respondent is asked to provide an estimate of the average monthly costs. In this case, a procedure similar to the first is used. As in the case where 1 month of billing data is provided, the reported monthly average is adjusted using regression formulas derived from the RECS data, that take into account both the reported amount of electricity charges and detailed characteristics of the unit. Finally, a factor is then applied to the electricity and gas costs to benchmark them to RECS averages.

Vacant units.

1984. See the topics “Housing unit definition” and “Weighting.”

Value.

1984. See the topic “Housing costs and value.”

2007. The table range for *Value* was increased to reflect current market changes. In prior years the top size category was \$300,000 or more. In 2007 additional size categories were shown. The resulting top category is \$750,000.

Weighting.

Appendix B describes the process of weighting the data to represent the country as accurately as possible. The last steps in weighting involve ratios to make AHS data match other sources. Table C-14 shows that the sources of these control totals have changed.

Table C-18 (at the end of this section) compares basic housing unit characteristics using 1980 and 1990 weights.

1979–83. The 1980-based national estimates are about 2 percent larger than the 1970-based estimates. This 2 percent effect was equally distributed among all types of units. Therefore, percentages and medians should be comparable throughout 1973–83.

1985. The 1980 census count of occupied units in the United States was adjusted for undercount and projected to 1985 using the 1980–85 Current Population Survey’s rate of change. The Census Bureau then ratio-estimated the 1985 AHS-National sample to this number. The procedure used in 1985 resulted in 200,000 additional occupied units that would not have been estimated if the 1983 procedures had been employed in 1985.

Table C-14. **Sources of Control Totals for AHS**

| Survey | Census used as basis | Method of updating |
|---------------------------------|--|--|
| NATIONAL SURVEYS | | |
| 1973–80 | 1970 | Current Population Survey |
| 1981–83 | 1980 | Current Population Survey |
| 1985–89 | 1980 | Current Population Survey, 1980 undercount, mobile home placements |
| 1991–2001 | 1990 | Formula, see Appendix B |
| 2003 and later | 2000 | Formula, see Appendix B |
| METROPOLITAN SURVEYS | | |
| 1974–75 | 1970 | Utility companies' data |
| 1976–78 | No controls (except that the 1977 Pittsburgh survey used the 1974–75 method) | |
| 1979–80 | 1970–80 | Interpolation |
| 1981–83 | 1980 | Building + demolition permits or no controls, depending on local judgment |
| 1984–88 California..... | State of California, Department of Finance | |
| 1984–88 Outside California..... | 1980 | Total population by county, and estimated change in household size by state (described in <i>Proceedings of the Bureau of the Census Second Annual Research Conference</i> , 1986, pages 83-110) |
| 1989..... | 1980–90 | Interpolation between 1985 estimate (methodology on previous line) and 1990 census |
| 1990..... | 1980–90 | Extrapolation |
| 1991–2001 | 1990 | Census Bureau data on construction, mobile home placement, vacant units, lost units |
| 2003 and later | 2000 | Census Bureau data on construction, mobile home placement, vacant units, lost units |

Also, all vacant units were adjusted for undercount for the first time. This adjustment added 400,000 vacant units (98,000 seasonal units and 302,000 year-round vacant units) to the housing inventory.

Beginning with 1985, national estimates of mobile homes with a model year of 1980 or later were ratio-estimated into independent counts of mobile home placements from the Survey of Mobile Home Placements. The counts of mobile homes for 1983 and earlier years may be too low and lead to unrealistically high estimates of change between 1985 and earlier years. For example, occupied mobile homes grew from 3,999,000 in 1983 to 4,754,000 in 1985, an increase of 755,000. This level of growth seems excessive as data from the Survey of Mobile Home Placements show approximately 570,000 new mobile homes placed for residential use during the same time period.

1991. On average, the 1990-based national weighting produces numbers that are about 2.5 percent lower than 1980-based weighting. This effect is not equally distributed among all types of units. Table C-15 shows the effects of the weighting change by region for the year 1991.

Table C-15. **1991 AHS: Change in Estimates From 1980-Based Weighting to 1990-Based Weighting as Percent of 1980 Based**

| Type of unit | United States | North-east | Mid-west | South | West |
|---------------------------|---------------|------------|----------|-------|------|
| Total housing units .. | -2.5 | -3.6 | -2.7 | -2.0 | -1.8 |
| Occupied | -2.4 | -3.5 | -2.7 | -2.0 | -1.7 |
| Built 1980 or later | -0.1 | 0.0 | -0.1 | -0.1 | -0.1 |
| Built before 1980 | -2.9 | -3.9 | -3.1 | -2.6 | -2.2 |
| Vacant | -2.9 | -4.6 | -2.8 | -2.4 | -2.4 |

Table C-16. **Occupied Housing Units Using 1990-Based Weighting: 1985, 1987, and 1989**

[Numbers in thousands]

| Characteristic | 1985 | | 1987 | | 1989 | |
|----------------------|--------|--------|--------|--------|--------|--------|
| | Owner | Renter | Owner | Renter | Owner | Renter |
| United States .. | 54,394 | 31,279 | 56,649 | 31,885 | 58,193 | 32,809 |
| Northeast ... | 10,922 | 7,106 | 11,418 | 7,089 | 11,660 | 7,011 |
| Midwest | 14,226 | 7,242 | 14,696 | 7,133 | 15,122 | 7,234 |
| South | 19,217 | 9,876 | 19,985 | 10,190 | 20,627 | 10,694 |
| West..... | 10,030 | 7,056 | 10,550 | 7,472 | 10,784 | 7,870 |
| Race | | | | | | |
| White and other..... | 50,222 | 25,866 | 52,323 | 26,253 | 53,772 | 26,924 |
| Black | 4,172 | 5,413 | 4,326 | 5,632 | 4,420 | 5,885 |

Table C-16 presents counts of occupied homes using 1990-based weighting. This weighting is consistent with the weighting used to produce the 1991 and later detailed tables in Chapters 1 through 10 of the national books. These data should be used when measuring the change in the size of the occupied inventory. These data provide the most accurate count of the total number of occupied homes in the United States for the years 1985, 1987, and 1989.

2001. Table C-18 compares the switch from using 1980 census-based geography to 1990 census-based geography, which affected several steps in the weighting procedures and the geography data items used in those steps. However, data on the 2001 microdata file are weighted using 1980 census-based geography. For more details, refer to the “Estimates” section of Appendix B.

2003. In 2003, the independent estimates (control totals) used to produce the weights were based on Census 2000 with an estimate of change since then. This 2000-based weighting produces, on average, estimates that are about 1.0 percent lower than 1990-based weighting.

The 2003 AHS-N estimates are not available using 1990-based weighting. For comparative purposes, 2001 data were produced using 2000-based weighting (the original data products used 1990-based weighting). As can be seen in Table C-17, the switch from 1990-based to 2000-based weighting produced a 1.0 percent lower estimate for 2001 at the United States level. The effect of the weighting change ranged from a 2 percent drop in the West to two-tenths of a percent increase in the Northeast.

Summary characteristics of the housing inventory for 2001 using 2000-based weighting are shown in Table C-19. These data should be used when comparing the 2001 AHS to the 2003 AHS.

Table C-17. **Total Housing Units in 2001 From the AHS Using 1990-Based and 2000-Based Weighting**

| Area | 2000-based weighting (revised) | 1990-based weighting (as published) | Difference | Percent difference |
|------------------|--------------------------------|-------------------------------------|------------|--------------------|
| United States .. | 118,196,000 | 119,117,000 | -921,000 | -1.0 |
| Northeast. | 22,382,000 | 22,347,000 | 35,000 | 0.2 |
| Midwest. | 27,396,000 | 27,748,000 | -352,000 | -1.3 |
| South. | 43,466,000 | 43,571,000 | -105,000 | -0.2 |
| West. | 24,953,000 | 25,450,000 | -497,000 | -2.0 |

Wiring.

1997. Plastic coverings began to be counted as acceptable, along with metal coverings, because the building industry accepts them. This change should reduce the count of “exposed wiring” reported in 1995.

Year householder moved into unit.

1999. A change was made in the way data for the year the householder moved in was processed. This change allows the year the householder moved in to be earlier than the year the structure was built for mobile homes. The change was made to accommodate mobile home householders who purchased a new mobile home but were still living in the same site, making the year their structure was built later than the year they moved in.

Table C-18. **Comparison of 1990 Geography-Based Weighting to 1980 Geography-Based Weighting—Selected Characteristics: 2001**

| Characteristic | Total | In MSAs | | Outside MSAs | Urban | | Rural | | |
|--|----------------|----------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|
| | | Central cities | Suburbs | | Total | Outside MSAs | Total | Suburbs | Outside MSAs |
| 1990 GEOGRAPHY AND WEIGHTING | | | | | | | | | |
| Year-Round Housing Units | | | | | | | | | |
| Total | 116,038 | 34,892 | 57,001 | 24,145 | 85,834 | 8,562 | 30,204 | 14,292 | 15,583 |
| Condominium/cooperative | 670 | 440 | 210 | 20 | 634 | 6 | 36 | 22 | 14 |
| 1, detached | 71,527 | 17,018 | 37,490 | 17,020 | 49,487 | 5,598 | 22,041 | 10,465 | 11,422 |
| 1, attached | 8,261 | 3,439 | 4,167 | 655 | 7,580 | 398 | 681 | 407 | 257 |
| 2-or-more units in structure | 28,001 | 13,784 | 11,428 | 2,789 | 26,279 | 2,032 | 1,722 | 916 | 758 |
| Manufactured/mobile home | 8,249 | 651 | 3,917 | 3,681 | 2,489 | 535 | 5,760 | 2,504 | 3,146 |
| Built 2000 or later | 3,045 | 615 | 1,873 | 557 | 1,938 | 152 | 1,107 | 691 | 405 |
| Built 1990 to 1999 | 15,716 | 2,748 | 9,512 | 3,456 | 9,432 | 885 | 6,284 | 3,565 | 2,572 |
| Built 1939 or earlier | 21,411 | 9,437 | 6,529 | 5,445 | 16,209 | 2,111 | 5,202 | 1,841 | 3,334 |
| Lacking plumbing | 2,051 | 698 | 798 | 555 | 1,410 | 141 | 641 | 205 | 414 |
| Public housing | 1,992 | 1,063 | 528 | 401 | 1,787 | 239 | 204 | 43 | 162 |
| Government subsidy | 2,262 | 1,094 | 778 | 391 | 2,079 | 270 | 183 | 63 | 120 |
| Other, income verification | 2,343 | 1,084 | 1,013 | 246 | 2,169 | 158 | 174 | 86 | 89 |
| Northeast | 21,656 | 6,938 | 12,286 | 2,432 | 16,562 | 658 | 5,094 | 3,296 | 1,774 |
| Midwest | 26,963 | 7,726 | 11,984 | 7,253 | 19,395 | 2,714 | 7,568 | 2,982 | 4,539 |
| South | 42,551 | 11,556 | 20,187 | 10,807 | 28,584 | 3,341 | 13,967 | 6,371 | 7,466 |
| West | 24,868 | 8,672 | 12,544 | 3,653 | 21,293 | 1,849 | 3,575 | 1,642 | 1,804 |
| Owner-Occupied Housing Units | | | | | | | | | |
| Total | 72,265 | 16,870 | 39,420 | 15,975 | 49,500 | 4,841 | 22,764 | 11,384 | 11,133 |
| Elderly householder | 17,513 | 4,235 | 8,686 | 4,592 | 11,975 | 1,525 | 5,538 | 2,427 | 3,067 |
| Black householder | 6,318 | 2,785 | 2,616 | 917 | 5,080 | 318 | 1,238 | 619 | 599 |
| Hispanic householder | 4,731 | 1,775 | 2,480 | 476 | 4,086 | 203 | 645 | 363 | 273 |
| Householder moved in last year | 5,645 | 1,325 | 3,198 | 1,122 | 3,998 | 412 | 1,647 | 900 | 710 |
| Respondent moved in last year | 6,002 | 1,403 | 3,424 | 1,175 | 4,268 | 434 | 1,734 | 957 | 740 |
| All workers | 84,974 | 19,628 | 48,220 | 17,126 | 59,101 | 5,181 | 25,873 | 13,614 | 11,946 |
| Householders who worked last week | 43,928 | 10,321 | 24,633 | 8,974 | 30,498 | 2,729 | 13,430 | 7,020 | 6,244 |
| 2-or-more-person households | 56,867 | 12,713 | 31,927 | 12,227 | 38,588 | 3,551 | 18,279 | 9,398 | 8,676 |
| Married-couple families, no nonrelatives | 44,618 | 9,200 | 25,615 | 9,803 | 29,660 | 2,721 | 14,958 | 7,715 | 7,082 |
| 1-person households | 15,398 | 4,157 | 7,493 | 3,748 | 10,913 | 1,291 | 4,485 | 1,986 | 2,457 |
| 1980 GEOGRAPHY AND WEIGHTING | | | | | | | | | |
| Year-Round Housing Units | | | | | | | | | |
| Total | 116,079 | 34,894 | 54,879 | 26,306 | 82,144 | 8,985 | 33,935 | 16,449 | 17,321 |
| Condominium/cooperative | 678 | 448 | 208 | 22 | 637 | 6 | 41 | 25 | 16 |
| 1, detached | 71,495 | 16,555 | 36,521 | 18,419 | 46,774 | 5,937 | 24,721 | 12,120 | 12,482 |
| 1, attached | 8,303 | 3,537 | 4,068 | 698 | 7,310 | 424 | 993 | 711 | 274 |
| 2-or-more units in structure | 28,052 | 14,453 | 10,572 | 3,027 | 25,989 | 2,167 | 2,063 | 1,169 | 860 |
| Manufactured/mobile home | 8,229 | 349 | 3,718 | 4,162 | 2,071 | 457 | 6,157 | 2,449 | 3,705 |
| Built 2000 or later | 3,045 | 572 | 1,832 | 641 | 1,803 | 157 | 1,243 | 758 | 484 |
| Built 1990 to 1999 | 15,711 | 2,464 | 9,081 | 4,166 | 8,417 | 887 | 7,294 | 3,993 | 3,279 |
| Built 1939 or earlier | 21,397 | 9,584 | 6,187 | 5,626 | 16,154 | 2,231 | 5,244 | 1,839 | 3,395 |
| Lacking plumbing | 2,025 | 716 | 797 | 512 | 1,386 | 146 | 639 | 270 | 366 |
| Public housing | 2,008 | 1,095 | 453 | 459 | 1,815 | 319 | 192 | 52 | 140 |
| Government subsidy | 2,256 | 1,139 | 708 | 409 | 2,050 | 294 | 206 | 91 | 115 |
| Other, income verification | 2,338 | 1,092 | 971 | 275 | 2,112 | 170 | 226 | 118 | 105 |
| Northeast | 21,679 | 7,025 | 11,711 | 2,943 | 16,222 | 798 | 5,457 | 3,311 | 2,146 |
| Midwest | 26,977 | 7,633 | 11,528 | 7,816 | 18,792 | 2,877 | 8,184 | 3,242 | 4,939 |
| South | 42,557 | 11,560 | 19,516 | 11,481 | 26,704 | 3,435 | 15,853 | 7,713 | 8,046 |
| West | 24,866 | 8,676 | 12,125 | 4,065 | 20,426 | 1,875 | 4,440 | 2,181 | 2,191 |
| Owner-Occupied Housing Units | | | | | | | | | |
| Total | 72,365 | 16,254 | 38,227 | 17,884 | 46,456 | 5,099 | 25,909 | 13,006 | 23,785 |
| Elderly householder | 17,543 | 4,060 | 8,447 | 5,037 | 11,482 | 1,640 | 6,061 | 2,633 | 3,396 |
| Black householder | 6,327 | 2,753 | 2,440 | 1,133 | 4,909 | 374 | 1,418 | 648 | 759 |
| Hispanic householder | 4,734 | 1,765 | 2,394 | 574 | 3,915 | 258 | 819 | 502 | 316 |
| Householder moved in last year | 5,641 | 1,274 | 3,090 | 1,278 | 3,693 | 398 | 1,949 | 1,060 | 880 |
| Respondent moved in last year | 5,997 | 1,350 | 3,316 | 1,332 | 3,946 | 420 | 2,051 | 1,131 | 912 |
| All workers | 85,103 | 19,036 | 46,821 | 19,246 | 55,284 | 5,403 | 29,819 | 15,841 | 13,843 |
| Householders who worked last week | 43,997 | 9,982 | 23,894 | 10,121 | 28,545 | 2,865 | 15,452 | 8,117 | 7,256 |
| 2-or-more-person households | 56,940 | 12,237 | 31,004 | 13,700 | 36,010 | 3,664 | 20,930 | 10,800 | 10,036 |
| Married-couple families, no nonrelatives | 44,681 | 8,821 | 24,896 | 10,964 | 27,605 | 2,832 | 17,076 | 8,866 | 8,132 |
| 1-person households | 15,425 | 4,018 | 7,223 | 4,184 | 10,446 | 1,435 | 4,979 | 2,206 | 2,749 |

Table C-19. **Summary Characteristics of the Housing Inventory From the 2001 AHS Using Weights Based on Census 2000**

| Characteristic | Total | In MSAs | | Outside MSAs |
|--|----------------|----------------|---------------|---------------|
| | | Central cities | Suburbs | |
| Total housing units | 118,196 | 34,760 | 57,584 | 25,851 |
| Seasonal | 3,055 | 182 | 976 | 1,897 |
| Year-round | 115,141 | 34,578 | 56,608 | 23,954 |
| Occupied | 105,435 | 31,439 | 53,207 | 20,789 |
| Owner | 71,708 | 16,703 | 39,157 | 15,848 |
| Renter | 33,727 | 14,736 | 14,050 | 4,941 |
| Vacant | 9,705 | 3,139 | 3,401 | 3,165 |
| For rent | 2,893 | 1,316 | 925 | 652 |
| For sale only | 1,234 | 338 | 493 | 403 |
| Rented or sold | 726 | 233 | 338 | 155 |
| Occasional use/URE | 2,577 | 535 | 904 | 1,138 |
| Other vacant | 2,275 | 718 | 740 | 817 |
| Year-Round Housing Units | | | | |
| Total | 115,141 | 34,578 | 56,608 | 23,954 |
| Condominium/cooperative | 6,239 | 2,063 | 3,721 | 454 |
| 1, detached | 70,912 | 16,832 | 37,211 | 16,869 |
| 1, attached | 8,215 | 3,419 | 4,145 | 651 |
| 2-or-more units in structure | 27,805 | 13,680 | 11,356 | 2,769 |
| Manufactured/mobile home | 8,208 | 646 | 3,897 | 3,666 |
| Built 2000 or later | 3,045 | 615 | 1,872 | 557 |
| Built 1990 to 1999 | 15,716 | 2,749 | 9,511 | 3,457 |
| Built 1939 or earlier | 21,218 | 9,355 | 6,480 | 5,383 |
| Lacking plumbing | 2,034 | 692 | 791 | 551 |
| Public housing | 1,850 | 975 | 505 | 370 |
| Government subsidy | 2,091 | 1,000 | 741 | 349 |
| Other, income verification | 2,327 | 1,076 | 1,007 | 244 |
| Northeast | 21,690 | 6,949 | 12,305 | 2,436 |
| Midwest | 26,621 | 7,620 | 11,845 | 7,157 |
| South | 42,448 | 11,523 | 20,145 | 10,779 |
| West | 24,382 | 8,486 | 12,313 | 3,582 |
| Owner-Occupied Housing Units | | | | |
| Total | 71,708 | 16,703 | 39,157 | 15,848 |
| Elderly householder | 17,385 | 4,198 | 8,628 | 4,559 |
| Black householder | 6,286 | 2,765 | 2,606 | 914 |
| Hispanic householder | 4,684 | 1,756 | 2,456 | 472 |
| Householder moved in last year | 5,608 | 1,314 | 3,180 | 1,114 |
| Respondent moved in last year | 5,962 | 1,391 | 3,404 | 1,166 |
| All workers | 84,296 | 19,423 | 47,892 | 16,981 |
| Householders who worked last week | 43,580 | 10,215 | 24,467 | 8,898 |
| 2-or-more-person households | 56,425 | 12,584 | 31,713 | 12,128 |
| Married-couple families, no nonrelatives | 44,273 | 9,106 | 25,445 | 9,723 |
| 1-person households | 15,283 | 4,119 | 7,444 | 3,720 |
| Renter-Occupied Housing Units | | | | |
| Total | 33,727 | 14,736 | 14,050 | 4,941 |
| Elderly householder | 4,270 | 1,819 | 1,710 | 740 |
| Black householder | 6,937 | 4,158 | 2,191 | 588 |
| Hispanic householder | 5,037 | 2,709 | 1,998 | 329 |
| Householder moved in last year | 10,951 | 4,587 | 4,617 | 1,748 |
| Respondent moved in last year | 11,550 | 4,886 | 4,863 | 1,802 |
| All workers | 34,626 | 14,673 | 15,236 | 4,717 |
| Householders who worked last week | 21,600 | 9,317 | 9,312 | 2,971 |
| 2-or-more-person households | 21,071 | 8,982 | 8,994 | 3,095 |
| Married-couple families, no nonrelatives | 9,017 | 3,838 | 4,198 | 1,436 |
| 1-person households | 12,656 | 5,754 | 5,056 | 1,846 |