

Appendix C. Historical Changes

INTRODUCTION

The American Housing Survey National (AHS-N) was first conducted in 1973. Between 1973 and 1981 it was conducted every year and was called the Annual Housing Survey. The last even-numbered year for the AHS-N was 1980. Since 1981, the survey has been conducted every other year. In 1985, the name was changed to 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 one year or there are specific years for which data are not comparable.

Only changes are noted in this appendix. For example, "Book Titles" has no entries for 1975 through 1977, since the same titles were published for those years as in 1974.

Age of Other Residential Buildings Within 300 Feet

1987. See the discussion under the topic "Buildings and Neighborhood."

Bars on Windows of Buildings

1987. See the discussion under the topic "Buildings and Neighborhood."

Book Titles

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.

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

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 in 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.

Buildings and Neighborhood

1987. As a result of the use of both decentralized telephone interviewing and Computer Assisted Telephone Interviewing (CATI) in the 1987 AHS-N and later, data for several observation items (where the interviewer rather than the respondent supplied the data) are not comparable to that reported in the 1985 AHS-N. 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 are restricted to units in 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 1985, including single-family homes.

Computer Assisted Telephone Interviewing (CATI)

1987. Large-scale CATI experiments were conducted as part of both the 1987, 1989, and 1991 AHS-N. Preliminary analysis of the CATI experiments indicated that CATI has a

significant effect on the data. The experiments revealed that characteristics' data for owner 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 characteristics 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 which showed significant differences between CATI and non-CATI estimates include routine maintenance costs and heating equipment.

Little is known at this time about whether CATI or non-CATI produces better data. It is felt, however, the estimates of change in AHS-N between 1985 and 1987, 1985 and 1989, and 1985 and 1991 will be biased for many characteristics as a result of the introduction of CATI. Also see the discussion under the topics "Buildings and Neighborhood" and "Telephone Interviewing."

Condition of Streets

1987. See the discussion under the topic "Buildings and Neighborhood."

Current Interest Rate

1993. In 1993, a programming error was discovered and corrected involving the computation of the median for the item "Current interest rate." Caution should be used when making comparisons with the 1991 and earlier AHS-N surveys and the 1993 and later surveys. The medians presented in the 1991 and earlier reports are calculated incorrectly. However, the data distributions are correct and can be used to compute corrected medians.

Description of Area Within 300 Feet

1987. See the discussion under the topic "Buildings and Neighborhood."

External Building Conditions

1987. See the discussion under the topic "Buildings and Neighborhood."

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 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. Beginning in 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.

Housing Costs and Value

1985. Beginning in the 1985 AHS-N; value, mortgage data, and taxes are shown for all owners; rent for all renters; and utilities for all of both groups. From 1973 through 1983, these items were shown only for "specified" owners and renters. For comparability, table 19 in of each chapter of the series H150 reports 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 in 1985 the terminology in the books 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. See the discussion under the topics, "Income," "Monthly Housing Costs" and "Utilities."

Housing Unit Definition

1985. Beginning with the 1985 AHS-N there are one major and two minor differences in the housing unit definition. The major difference is that beginning in 1985 the AHS-N 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 housing inventory. The 1973 through 1983 AHS-N excluded these units. A minor difference in the definition is the 1973 through 1983 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 1985, the complete kitchen facilities alternative was dropped with direct access required of all units. A second minor difference is in the definition of group

quarters. In the 1973 through 1983 AHS-N, a household containing 5 or more persons unrelated to the householder was considered to be group quarters. In 1985, the cutoff was changed to 9 or more persons unrelated to the householder.

Income

1985. See the discussion under the topic “Poverty.”

1989. Two new items in 1989 replaced similar items that were published in 1985 and 1987. They are “Monthly housing costs as percent of current income” and “Ratio of value to current income.” For income, these new items use “Current income.” In 1985 and 1987, the items “Value-income ratio” and “Monthly housing costs as percent of income” used the “Income of families and primary individuals in the last 12 months.” See appendix A for a complete definition of “Current income,” “Monthly housing costs as percent of current income,” and “Ratio of value to current income.” We recommend caution when comparing prior years’ data with 1989 because of the differences in the definitions.

For comparative purposes, table A shows monthly housing costs as a percent of both income in the last 12 months and current income. For total households and owner households, the medians are the same for both types of income; for renter households, the medians are 29 and 27 percent, respectively.

Table A. 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

Table C in the introduction of the book *American Housing Survey for the United States in 1989*, series H150/89, shows the individual categories of percentages for 1989 for monthly housing costs as a percent of income in the last 12 months. Table 2-13 of the same report shows the individual categories for current income. For most households, current income is the same as income in the last 12 months. That is the situation for 83 percent of total households, 86 percent of the owners, and 78 percent of renters.

1993. Beginning in 1993, the questions on income sources of families and primary individuals were revised with the purpose of improved income reporting. The 1991 question, which reported interest or dividend income of \$400 or more, was divided into two separate questions in 1993. One new question reports interest income from different

sources and one reports dividends from stocks. Neither of these two questions have an amount limitation. Also, starting in 1993 in the “Other” income category, we now include income from education loans, grants, and scholarships. Prior to 1993, these sources of income were not collected. Caution should be used when making comparisons with the 1991 and earlier surveys and the 1993 and later surveys for items “Household Income,” “Income of Families and Primary Individuals,” and “Income Sources of Families and Primary Individuals.”

Wage and salary income was underreported for some persons and households. The error occurred during the processing of the data collected by computer assisted telephone interviewing. When the respondent doesn’t know or refuses to report wage and salary income, income is allocated during the processing. In 1993 this income was not allocated but was incorrectly processed as “zero” (no) income. This error did not occur in 1991 and earlier years and was corrected in 1995. Although the income data for 1993 is incorrect, analysis of median household income for 1991, 1993, and 1995 indicates that the impact of this error on 1993 data is minor.

Income Sources

1993. See the discussion under the topic “Income.”

Kitchen

1985. Beginning in 1985, short questions are asked about each aspect of a complete kitchen (questions 27, 36a, 38a, 38b2). Previously only one long question was asked. The new approach finds more homes missing some part of the kitchen than the old longer question did. Also, 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 bring a refrigerator), as is the practice in some areas, such a kitchen was counted as complete. Starting in 1985, 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 (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.

1985 to present. In the 1985 through 1995 AHS-N, an oven was required for a housing unit to have “complete kitchen facilities.” In the 1987 through 1993 reports, “the complete kitchen facilities” definition in appendix A is incorrect. The definition does not require an oven even though the data in the tables do require an oven. All data from 1985 through 1995 for “complete kitchen facilities” are comparable.

Losses

1975 and 1976. The figures for 1973 to 1975 losses and 1973 to 1976 losses published in the 1975 and 1976 reports are incorrect. These figures were corrected in 1977 and published in *General Housing Characteristics for the United States and Regions: 1977*, series H150/77.

Married-Couple Families

1985, and 1987. It was discovered that the published 1985 and 1987 estimates of married-couple families with no nonrelatives were overestimates as a result of an error in processing. 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 B provides corrected figures for 1987.

Table B. **Estimates 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

Mobile Homes

1985. See discussions under the topics “Housing Unit Definition” and “Weighting.”

Monthly Housing Costs

1985. See the discussion under the topic “Housing Costs and Value.”

1989. Beginning in 1989, the monthly housing costs questionnaire items for renters were revised to improve the reporting of actual rental costs. In 1987, the questionnaire reflected 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. The current questionnaire identifies those rental units that are subsidized and allows households to report only the costs they actually paid. The new procedures in 1989 produce lower and more accurate estimates. Also see the discussion under the topic “Income.”

Name Change

1985. In 1985, the AHS-N changed its name from the Annual Housing Survey to the American Housing Survey. See the introduction of this section, “Historical Changes.”

Neighborhood

1987. See the topic “Buildings and Neighborhoods.”

New Construction

1976, 1977, and 1978. The figures for 1973 to 1976 new construction, 1973 to 1977 new construction, and 1973 to 1978 new construction published in the 1976, 1977, and 1978 series H150 reports are incorrect. These figures were corrected in 1979 and published in *General Housing Characteristics for the United States and Regions: 1979*, series H150/79.

1985. The characteristics of new construction units are based on units constructed during the last 4 years in the 1985 AHS-N and later. Prior to 1985, characteristics of new construction were based on units built since the last survey year, which was a 1-year period except for the 1983 survey, which was a 2-year period.

Other Buildings Vandalized or With Interior Exposed

1987. See the discussion under the topic “Buildings and Neighborhood.”

Other Housing Costs per Month

1995. In 1995, a processing error was discovered and corrected involving the category “homeowner association fee paid” in the item “Other Housing Costs per Month.” The “homeowner association fee paid” data presented in the 1993 and earlier reports were incorrect and should not be used. The 1995 data are correct.

Persons Other Than Spouse or Children

1993. A processing error was discovered involving the category of “lodgers” in the item “Persons Other Than Spouse or Children.” In 1993, data for “lodgers” were not collected. Therefore, the category of “lodgers” in the 1993 report is incorrect. Prior to 1993 and in 1995, data on lodgers were collected and data in this category are correct.

Plumbing Facilities

1985, 1987, and 1989. The data on plumbing facilities, which were suppressed in 1985 and 1987, are shown in 1989 and later. The changes in the 1985 questionnaire that resulted in serious deficiencies in these data were modified starting in 1989.

In 1983 and earlier, respondents were asked a question on complete plumbing facilities that specified to the respondent the components necessary for complete plumbing (i.e., 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.

In the 1985 and 1987 AHS, respondents were first asked how many full bathrooms they have. 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 1985 and 1987 definition of a bathroom requires 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 1985 and 1987 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 persons living in another unit. Based on previous years' AHS data, we believe the "completeness" was more of a problem than "exclusive use." Therefore, the data for 1985 and 1987 were suppressed.

Beginning in 1989, 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 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. There has not necessarily been an increase in units lacking plumbing between 1983 and 1989. We feel that, not only have the deficiencies noted as 1985 and 1987 been corrected, but the 1989 questionnaire provides a better estimate than the 1983 procedures did. Although the figures from 1973 to 1983 appear to be underestimates, the downward trend during that time period is felt to be accurate and may be continuing at this time.

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 1985 and 1987. It also appears the units with moderate problems may have been overestimated.

There was an unrealistic increase in units with severe problems between 1985 and 1989 because of redesigning

the plumbing facilities question. Total housing units with severe problems went from 1,559,000 in 1985 to 3,161,000 in 1989. This increase also affected medians as table C shows.

Table C. Median Year Structure Built, Rooms, and Square Footage for Units With Severe Physical Problems: 1985 and 1989

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

There was an unrealistic decrease in the total number of units with moderate problems. Total units dropped from 5,814,000 in 1985 to 4,442,000 in 1989.

1993. In 1993, there were 1,854,000 housing units that reported a complete lack of plumbing facilities. The total number of units that reported such a lack decreased by about one-third between 1991 and 1993. Also, there was a decrease in these units between 1989 and 1991. Total housing units with no plumbing facilities for exclusive use went from 3,135,000 in 1989 to 2,905,000 in 1991. 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. Although the decrease between 1991 and 1993 seems unrealistic, we feel that the change in the 1993 questionnaire resulted in a better estimate. Caution should be used when making comparisons with the 1991 AHS-N survey and the 1993 and later surveys. The drop in the number of units with no plumbing facilities also caused a drop in the number of occupied units with severe physical problems from 2,874,000 in 1991 to 1,901,000 in 1993.

Poverty

1985. Beginning in 1985 the AHS-N provides housing characteristics for households with income below the poverty level. The AHS-N poverty data are not comparable to poverty data published from the Current Population Survey (CPS). Table D presents the differences.

Table D. 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
1985-1987 change	-1,297,000	-189,000
1987-1989 change	434,000	-438,000

Compared with the CPS, the AHS-N drop in poverty between 1985 and 1987 seems too large. The 1987 to 1989 AHS-N increase in poverty may be, in part, a compensation for the unrealistic 1985 to 1987 drop.

In general, AHS estimates of poverty are higher than the CPS estimates. Research indicates that the AHS-N 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-N poverty data is presented in the Census Bureau memorandum for the record, "AHS Poverty Data, 1985 to 1989." A detailed discussion of AHS-N income data is presented in the Census Bureau memorandum for the record, "Comparison of the 1989 AHS and CPS Income Reporting." Copies of these memoranda can be obtained by writing to the Housing and Household Economic Statistics Division, Bureau of the Census, Washington, DC 20233.

We wish to remind analysts that poverty data are published in the AHS-N not as an official count of households in poverty, but to show the housing characteristics of low-income households.

Questionnaire

1985. A new questionnaire was introduced in the 1985 AHS-N. Most of the changes on the questionnaire were made to improve the quality of the data. As a result of these changes, however, several items in the 1985 AHS-N and later are not comparable to similar data for 1973 through 1983. A list of these items follows. A discussion of each item can be found under the topic of the same name.

Items changed on 1985 questionnaire:

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

A number of new items were introduced in the 1985 AHS-N including lot size, square footage, units with severe or moderate problems, elderly householder, heating degree days, and detailed information on mortgages, etc. For detailed definitions of these and other items, please see appendix A.

1995. A number of new items were introduced in the 1995 questionnaire to improve the quality of the data. A list of these items follows.

New items in the 1995 questionnaire:

- 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

For detailed definitions of these new items, please see appendix A.

Race

1995. Beginning in 1995, two new categories were added to this item: "American Indian, Eskimo, and Aleut," and "Asian and Pacific Islanders."

Recent Movers

1985. In the 1985 AHS-N 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 1985, all recent-mover data were based on the householder's characteristics.

Rooms in Unit

1985. The number of year-round units with one or two rooms 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-N, 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 1985 AHS-N, respondents were asked for a count of each specific type of room. The answers to these questions are then added together in the tabulations to provide a total count of rooms. Far fewer rooms are 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 be double counted. For example, a living room may also have been counted as a family room for a count of two rooms when only one room actually exists.

Sample

1985. A new sample was chosen for the AHS-N in 1985. In 1973 through 1983, a sample of housing units was selected from the 1970 census and updated to include units constructed since 1970. In 1985, a new sample was chosen from the 1980 census and updated to include units constructed since 1980. 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 through 1983 surveys with the results of the 1985 and later surveys may be affected.

Severe and Moderate Problems

1985, 1987, and 1989. The data concerning units with severe and moderate problems in 1989 and later are not entirely comparable with similar data published in 1985 and 1987. See the discussion under the topic "Plumbing Facilities."

1993. See the discussion under the topic "Plumbing Facilities."

Source of Water

1995. In 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.

Stories in Structure

1987. See the discussion under the topic "Buildings and Neighborhood."

Telephone Interviewing

1981. Beginning in 1981, decentralized telephone interviewing was conducted for a sample of units that were in sample during the previous enumeration. As a result of analysis conducted in both 1981 and 1983, it was 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 discussion under the topics "Buildings and Neighborhood" and "Computer Assisted Telephone Interviewing."

Time Sharing

1993. In 1993, a programming error was discovered and corrected for the item "Time Sharing." In 1991, the wrong universe was used. As a result, the published 1991 estimates of time-shared units were underestimated. Caution should be used when making comparisons with the 1991 AHS-N survey and the 1993 and later surveys.

Trash, Litter, or Junk on Streets or Any Property

1987. See the discussion under the topic "Buildings and Neighborhood."

Units in Structure

1985. In 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 1985 and later, data on units in structure are based on the respondent's answers to a series of questions (see item 20 through 23 on page 3 of the questionnaire in appendix A). The method of collecting units-in-structure data was revised in 1985 as previous AHS experience has shown the concept to be difficult for

respondents. Respondents particularly had difficulty distinguishing between single-family attached and units in multiunit structures. Table E shows the change in the year-round inventory by units in structure between the 1983 and 1985 AHS using the published data.

Table E. **Change in the Year-Round Housing Inventory by Units in Structure: 1983 to 1985**

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

It is estimated that the 1983 AHS-N overestimated single-family detached by 125,000 and single-family attached by 696,000 units. The 1983 AHS-N underestimated units in multiunit structures by approximately 898,000. Table F provides more reasonable (revised) levels of 1983 to 1985 growth by adding (1983 overestimates) and subtracting (1983 underestimates) to the 1983-85 change shown in table E.

Table F. **Revised Change in the Year-Round Housing Inventory by Units in Structure: 1983 to 1985**

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

Utilities

1989. Beginning in 1989, two procedures were introduced that attempt to correct the overreporting of electricity and gas costs in the AHS-N. 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 are 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 second procedure was applied to the remaining units. If the respondents did not know the amount of their electricity and/or gas bill for at least 3 of the 4 months, we used their estimate of average monthly costs. A factor was then applied that, in effect, lowered these costs to make them consistent with electricity and gas costs reported in the Residential Energy Consumption Survey sponsored by the United States Department of Energy.

Before 1989, respondents were only asked to provide an estimate of average monthly costs. Research done using the 1987 AHS has shown 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.

Vacant Units

1985. See discussions under the topics “Housing Unit Definition” and “Weighting.”

Weighting

1981. The independent household estimates (control totals) used in the weighting of data in the 1981 and 1983 AHS-N are Current Population Survey (CPS) estimates derived from the 1980 census. The CPS independent household estimates used in the weighting of data in the 1973 through 1980 Annual Housing Surveys were derived from the 1970 census. The 1980-based 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 calculated during the 1973 through 1980 time period should be comparable to similar data calculated in 1981 and 1983.

1985. In 1985, the 1980 census count of occupied units was adjusted for undercount and projected to 1985 using the 1980 to 1985 Current Population Survey’s (CPS) rate of change. The 1985 AHS-N was then ratio-estimated to this number. In 1983 and earlier years the AHS-N was ratio-estimated directly into CPS estimates. 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.

Also in 1985, all vacant units were adjusted for undercount for the first time. This resulted in the addition of 400,000 vacant units (98,000 seasonal units and 302,000 year-round vacants) to the housing inventory.

Beginning with 1985, 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 1983 and earlier years counts of mobile homes may be deficient leading 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 shows approximately 570,000 new mobile homes placed for residential use during the same time period.

1991. Beginning with 1991, the independent estimates (control totals) used in weighting the data (occupied and vacant independent estimates) are based on the 1990 census, plus change since then. The 1990-based weighting produces, on average, numbers that are about 2.5 percent lower than 1980-based weighting. This effect is not equally distributed among all types of units. Table G shows the effects of the weighting change by region for the year 1991.

Table G. Difference Between 1980- and 1990-Based Weighting as a Percent of 1980-Based: 1991 and 1993

Type of unit	United States	North-east	Mid-west	South	West
1991					
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 H 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 series H150 books. These data should be used when measuring the change in the size of the occupied inventory over time. These data provide the most accurate count of the total number of occupied homes for the years 1985, 1987, and 1989.

Table H. 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