CODEBOOK FOR THE

AMERICAN HOUSING SURVEY


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*TYPE*: S=SMSA, P=PMSA, M=MSA, C=CSMSA. The number of PMSAs included is also shown.
* Area had a larger sample size than other. Sample sizes are shown in Tables 2 & 4.
+ Same boundaries after 1983. Elsewhere, broader areas are surveyed after 1983. In all areas, old sample cases remain in sample, plus a sample of new units. Exact counties surveyed are listed in Table 4 in the Geography section of the Codebook.
INTRODUCTION TO THE AMERICAN HOUSING SURVEY
Prepared by Paul Burke

The American Housing Survey (AHS) can answer many of your questions about U.S. people and homes, with a national sample of about 50,000 interviews every other year. The AHS also gives you in depth surveys of major metropolitan areas, going back to each area about once every four years.

The AHS gives you data on highrises, houses, mobile homes, vacant homes, wage and non-wage income, housing and neighborhood quality, etc. The AHS asks homeowners about repairs and mortgages, renters about rent control and rent subsidies, recent movers about the home they left and why they moved, workers about their commute. For each person, whether adult or child, the AHS shows: age, sex, relationships, education, wages, and the date they moved into their home. The tapes identify many local areas: large counties, cities, and metropolitan areas (see pages 11-23), but not whole states.

To see homes and households changing over long periods of time, the survey goes back to the same housing units year after year (plus new construction). The Census Bureau has done the survey for the U.S. Department of Housing and Urban Development (HUD) since 1973. Most interviews are face to face, and the rest by telephone. Until 1981, the AHS collected national data every year, instead of every other year, and was called the Annual Housing Survey.

HOW TO USE THIS CODEBOOK

This Codebook shows what information is available on each computer tape. You can start by using the subject headings in the Table of Contents, or by browsing through the sample questionnaire at the end of this Introduction (it shows the name of each variable and its sequence number in this book), or by using the quick indexes at the back of the book.

The computer file contains raw data from each interview ("microdata"), which can be added up using the variable WEIGHT books. The record layout, printed in this book after the sample questionnaire, shows which columns of each record contain each question. The main body of this book shows the codes present in each question each year.

For example, if you want to compare housing costs in good and bad neighborhoods, you would turn to the Table of Contents and find that there are specific sections on "Neighborhood" and "Housing Cost." Each of these sections begins with some text describing the information available. Then each section has a list of the individual questions that have been asked, and the codes for each answer. You would choose an appropriate measure of satisfaction, or CRIME which is a specific question about crime, or any of a variety of other questions. Similarly, in the cost section, ZSMHC is an overall measure of monthly housing cost, and there are separate questions on mortgage costs, rent, taxes, utilities, etc.
Some questions are asked in all 35 surveys, some are not. Be careful to find questions that are available on the file you have. This Codebook shows when each question was asked. Even within a survey, be careful of homes where a question is not applicable, such as vacant homes, demolished homes, newly built homes, etc. The Codebook shows codes for each of these situations. For example, the code 9 in CRIME means not applicable, and 8 means not answered (the respondent refused, or the interviewer forgot to ask the question).

Each interview on the tape represents a varying number of other homes, since this is a sample survey, and different homes are sampled at different rates. The variable WEIGHT (Page 202) on each interview shows how many homes that sample case represents. It has two implicit decimal places, so for example 206925 on the tape means 2069.25 homes. When you prepare a table from the tape, add up the values of WEIGHT, case by case, to estimate the complete number of homes. Compare the total number of homes you get to an AHS publication, to be sure you have run the tape correctly. Numbers should match fairly closely, except in high categories of financial variables, where the top code given on the tape is limited to protect confidentiality. You should also be aware that standard errors calculated by most statistics packages are greatly understated since they use the weighted total as the sample size. For corrections, see Chapter 1.

Correct samples should be chosen by using the variable ISTATUS, page 32 (use cases coded 1 for occupied homes, cases coded 2 or 3 for vacant homes). On national files from 1974N-83N you should also use the variable RURREC, page 9 (use cases coded 1 for the basic national sample; cases coded 2 are only for specialized rural studies, as explained in the introduction to the Geography section).
REF# and NAME The number provides a convenient sequential reference. The name attempts to describe the content of the question. Whenever possible, questions in new questionnaires have the same name as in earlier surveys, even if the question was modified.

SURVEYS This entry shows the years and surveys where the question is available. A year followed by "N" means the question is in that National survey, and a year followed by "S" means the question is in the Metropolitan Statistical Area survey. Note that the survey as conducted only in odd years from 1981 on, so a range of 74N-93N means the question is available each year from 1974 through 1981 and odd years thereafter.

DESCRIPTION This entry describes the question as briefly and accurately as possible. Users should refer to the actual question in the Questionnaire to understand the exact intent of the question. To help identify current questions, the questions present in 1984-5 are in bold print.

Codes Answer categories and codes have changed over the years for many questions. These changes are shown through the use of separate columns. The column heading shows the surveys where each set of codes applies.

PAGE ON QUESTIONNAIRE This entry gives the page number on selected questionnaires. Up to 4 entries include: the last year the question was available before the questionnaires were extensively revised in 1984, and the first year it is available in the redesigned questionnaires (generally 1984S and 1985N). A blank means the question was not on some of these questionnaires. "G" means the variable was computer generated. "C" followed by a page number means the item comes from the control card rather than the Questionnaire. In the section on 1980 Census Variables page numbers refer to the 1980 Census long form questionnaire, e.g., page 4 for single family units and on page 15 for multifamily units, the page on which the question appears the first time is reported. The Directory (see Publications, below) reports every page number and every survey.

Notes Notes are included to clarify a definition, to highlight important changes in wording or respondents across years and other facts which may affect the comparability or reliability of the question.
MAJOR DEFINITION CHANGES

Several geography variables and tenure, units in structure, etc., have changed coding. See the main body of this book. Starting in 1981N and 79S-83S the weighting variable WEIGHT is adjusted on the basis of 1980 Census results; previously it was adjusted on the basis of 1970 Census results; the national count of units therefore rose almost two million unit, mostly because the 1980 Census had much less under-count than the 1970 Census. A similar adjustment with 1990 Census results will be done in 1991N and 90S-93S. Starting in 1985N and 1983S the weighting variable PWT is also available and covers non-interviews as well as interviews.

Starting in 1984 the AHS collects the cost of housing for all homes; previously cost was not collected on homes with more than 10 acres nor on owner-occupied homes in multi-unit buildings such as duplexes or condominiums or with a business or medical office on the property. Also starting in 1984 gross rent is stored in the same variable as ownership cost, which is ZSMHC; previously it was stored in ZRENT. Utility variables for owners and renters have similarly been combined. Starting in the 1984 AHS, the total housing cost of renters (gross rent) includes property insurance, if any; previously it did not.

Starting in 1989 the AHS asks households the amount of their gas and electric bills for the most recent January, April, August, and December, and uses a regression to estimate the annual average; previously respondents were asked to come up with an annual average in their heads; this is still done for people who cannot give at least 2 of the 4 months, but it has been found to give a 10% overestimate on average (see p. 1-10 at the end of this book). Starting in 1989N and 90S the AHS asks subsidized renters what the family is required to pay each month (PRENT, p. 147), since there has been concern that RENT may sometimes elicit the total landlord charge, paid partly by the government; PRENT is used in calculating the total monthly housing cost, ZSMHC.

Starting in 1989N and 90S the AHS asks expected income in the coming year, if a major change in income has already started (ZINCN and ZINCH, p. 112); this is used in publications for calculating the ratio of housing cost to income.

Starting in the 1980 AHS and Census, the householder can be any adult whose name is on the title or lease; previously the term was head of household, and was arbitrarily the husband in husband-wife families. Starting in the 1984 AHS and 1980 Census, vacant mobile homes, boats and RVs are counted as housing units; previously vacant ones were not. Starting in the 1984 AHS and 1980 Census, a household that reaches its home through someone else's home is considered part of the same household; previously the two households were considered separate if each had complete, separate kitchen facilities. Starting in the 1984 AHS and 1980 Census, a household where 9 or more people are unrelated to the householder is not counted as a housing unit and is omitted from the AHS; previously the limit was 5 or more.

Starting in 1991, the AHS identifies units for sale or for rent which are not yet vacant, since this is a major part of at least the sales market (MARKET, p. 205). Also starting in 1991 the AHS classifies URE units as for rent, old not yet occupied, etc.; previously they were just classified as year-round or seasonal.
SAMPLES AVAILABLE

The American Housing Survey has two separate parts: (a) a national survey of housing units throughout the country, and (b) surveys in selected metropolitan areas. Each metropolitan survey has 3,000-15,000 interviews. Table 1 shows when each area has been and will be surveyed.

The national survey covers 50,000-80,000 homes, a completely different sample from the homes in the metropolitan survey. One basic sample, growing slightly to include new homes, was visited every fall from 1973-81, and in 1983. The AHS drew a new sample from the 1980 Census to use every other year from 1985 on.

The national AHS added a special sample of neighbors starting in 1985 (and again in 1989 and 1993). This neighbor sample covers the 10 nearest neighbors around each of 680 AHS homes in urban areas. The neighbor sample, which has 6,800 units in 680 clusters, lets users compare adjacent units, occupants of those units, and changes over time. The neighbor sample includes all the same questions as the regular national sample, and will be released on the same tape. The Geography section of this Codebook describes the variables NEIGH and RURREC that identify the neighbor cases.

In most national AHS surveys, when there is no neighbor sample there is an extra sample of rural units for more accurate rural estimates.

### TABLE 2 - Sample Sizes and File Sizes in the AHS

<table>
<thead>
<tr>
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<tr>
<td>Total National Sample (000s)</td>
<td>158</td>
<td>90</td>
<td>54</td>
<td>53</td>
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<td>77</td>
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<td>End (in same or subsequent year)</td>
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<td>1/18</td>
<td>1/24</td>
<td>1/20</td>
<td>1/15</td>
<td>12/29</td>
<td>12/21</td>
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<td>2/13</td>
<td>1/14</td>
<td>12/31</td>
<td>11/4</td>
<td>11/5</td>
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</tbody>
</table>

Occupied units are about 80% of each sample. Others are vacant (11%), refusals (5%), converted to business use, demolished, etc. A new national sample was used starting in 1985, 1980 census records will be available on this tape, to give it some history.

<table>
<thead>
<tr>
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<td>*Big Sample, Areas Starred in Table 1</td>
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<td>MAR</td>
<td>APR</td>
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PUBLICATIONS

HUD and the Census Bureau publish 200-500 page books of results from each survey. There is one basic book for each national survey from 1985 on (series H-150), and a second book published some years later on supplementary topics like second homes and commuting (series H151). There were six books for each national survey from 1973-83 (series H-150).

There is one book for each metropolitan area whenever it is surveyed (series H-170). There are also metropolitan summary books in some years (series H-171), which include extracts of the other books and sometimes other topics: housing and neighborhood quality (1975) and commuting (1984+).

All books are available from: HUD USER, Box 6091, Rockville, MD 20850, (800) 245-2691 or (301) 251-5154. They have recent books for a handling charge of $3 each. For older books, chapters or whole books can be photocopied for $5-$36, depending on length. They accept credit cards.

The most recent national book is also available from the U.S. Government Printing Office, Washington, DC 20402, (202) 783-3238 for about $28. This Codebook, recent Metropolitan books and microfiche of all books are available from Data User Services Division, Bureau of the Census, Washington, DC 20233, (301) 457-4100, fax (301) 457-4714 for general information, (301) 457-3842 for orders only.

Each National Book shows data for the U.S., four Census regions, Blacks and Hispanics. Starting in 1985, most of the information is contained in a single book.

<table>
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<tr>
<th>TOPICS</th>
<th>BREAKDOWN</th>
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<td>General</td>
<td>By all topics</td>
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<td>General</td>
<td>By Suburban, Central</td>
<td>Part A</td>
<td>1973-1983</td>
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<td>City &amp; Non-Metropolitan Areas</td>
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<td>By Urban and Rural</td>
<td>Part E</td>
<td>1974-1983</td>
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<tr>
<td>General</td>
<td>By Rent, House Value</td>
<td>Part C</td>
<td>1973-1983</td>
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<td></td>
<td>&amp; Family Income</td>
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<tr>
<td>General</td>
<td>For Recent Movers Only</td>
<td>Part D</td>
<td>1973-1983</td>
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<td>Housing &amp; Neighborhood Quality</td>
<td>Summary</td>
<td>Part B</td>
<td>1973-1977</td>
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<td>Part F</td>
<td>1973-1977</td>
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The metropolitan publications up through 1983 showed data for the total of all suburbs in an area and the total of all central cities. From 1984 on, publications show brief data (total units, renters, Hispanics, movers, poor, elderly, etc.) on each county where sample size permits. They also have very detailed data on three major subareas, listed below.

Anaheim, 86
Santa Ana
Garden Grove

Cleveland, 84
Bal. Cuyahoga Co.
Lake Co.

Indianapolis, 84
Hamilton Co.
Johnson Co.

New York, 87
Nassau Co.
Suffolk Co.

Providence, 84
Warwick
Cranston

San Jose, 84
Sunnyvale
Bal. Santa Clara Co.

Atlanta, 87
Bal. DeKalb Co.
Cobb Co.

Columbus, 87
Franklin Co.
Licking Co.

Kansas City, MO, 86
Kansas City, KS
Bal. Jackson Co.

Newark, 87
Bergen Co.
Middlesex Co.

Riverside, 86
Bal. Riverside Co.
San Bernardino City

Seattle, 87
Balance King Co.
Pierce Co.

Baltimore City, 87
Baltimore Co.
Anne Arundel Co.

Dallas City, 85
Balance Dallas Co.
Collin Co.

Los Angeles City 85
Long Beach
Bal. Los Angeles Co.

Norfolk, 84
Virginia Beach
Newport News

Rochester, 86
Bal. Monroe Co.
Ontario Co.

Tampa, 85
St. Petersburg
Balance Pinellas Co.

Birmingham, 84
Walker Co.

Denver, 86
Jefferson Co.
Arapahoe Co.

Memphis 84
Balance Shelby Co.
DeSoto Co.

Oklahoma City, 84
Bal. Oklahoma Co.
Bal. Cleveland Co.

St. Louis City, 87
St. Louis Co.
St. Clair Co.

Boston, 85
Cambridge
Brookline

Detroit, 84
Balance Wayne Co.
Oakland Co.

Miami, 86
Balance Dade Co.
Ft. Lauderdale

Philadelphia, 85
Montgomery Co.
Delaware Co.

Salt Lake City, 84
Bal. Salt Lake Co.
Davis Co.

Buffalo, 84
Balance Erie Co.
Niagara Falls

Ft. Worth, 85
Arlington
Balance Tarrant Co.

Milwaukee City, 84
Bal. Milwaukee Co.
Waukesha Co.

Phoenix, 85
Mea
Bal. Maricopa Co.

San Antonio, 86
Balance Bexar Co.
Guadalupe Co.

Chicago, 87
Balance Cook Co.
DuPage Co.

Hartford, 87
New Britain
Bristol

Minneapolis, 85
St. Paul
Bal. Hennepin Co.

Pittsburgh, 86
Bal. Allegheny Co.
Westmoreland Co.

San Diego City, 87
Bal. San Diego Co.

Cincinnati, 86
Bal. Hamilton Co.
Kenton Co.

Houston, 87
Balance Harris Co.
Brazoria Co.

New Orleans, 86
Jefferson Parish
St. Tammany Parish

Portland, 86
Bal. Multnomah Co.
Washington Co.

San Francisco, 85
Oakland
Balance Alameda Co.

In addition to this Codebook, Abt Associates sells a Directory and copies of the questionnaires used in the surveys. The Directory provides unweighted frequency distributions for each variable every year, a cross reference to locations on all the tapes and questionnaires, and information on allocation variables. Contact: AHS Data Project, Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138, (617) 497-7182.

Other detailed tables and analysis not normally published can be prepared by the organizations listed below. First are listed private organizations that are known to have at least some of the AHS tapes. Then we list State Data Centers, which cooperate with the Census Bureau to make data more available. Those which are known to have at least some of the AHS tapes are starred. Costs especially from a private organization. However, extra tables using the same input file would probably then cost only a few dollars each. In addition anyone able to process computer tapes may buy them, as explained below under Data Files, and prepare their own tables. The files are usually too large to put on floppy disks. The file sizes are shown in Table 2 above.
PRIVATE ORGANIZATIONS AND STATE DATA CENTERS

National Association of Home Builders
15th and M Street, NW
Washington, DC 20005
Mr. David Crowe
(202) 822-0383

Abt Associates, Inc.
AHS Data Project
55 Wheeler Street
Cambridge, MA 02138
(617) 497-7182

The Urban Institute
2100 M Street, NW
Washington, DC 20037
(202) 833-7200

Inter-University Consortium for Political & Social Research
University of Michigan
Ann Arbor, MI 48106
(313) 764-2570

Claritas Corporation
Attn: Jonathon E. Robbin
201 North Union Street
Alexandria, VA 22314
(703) 683-8300

Donnelley Marketing Information Service
Attn: Gary Hill
70 Seaview Avenue
Stamford, CT 06904
(203) 353-7474

Alaska
Alaska State Data Center
Research & Analysis
Department of Labor
P.O. Box 25504
Juneau, AK 99802-5504
Ms. Kathryn Lizik
(907) 465-6026

Arizona
Arizona Department of Economic Security
First Floor, SE wing
1789 W. Jefferson Street
Phoenix, AZ 85007
Ms. Betty Jeffries
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Arkansas
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University of Arkansas-Little Rock
2801 South University
Little Rock, AR 72204
Ms. Sarah Breshers
(501) 569-8530

California*
State Census Data Center
Department of Finance
915 L Street
Sacramento, CA 95814
Ms. Linda Gage, Director
(916) 322-4651

Colorado
Division of Local Government
Colorado Department of Local Affairs
1313 Sherman Street, Room 521
Denver, CO 80203
Ms. Rebecca Picaso
(303) 866-2156

Connecticut
Policy Dev. & Planning Division
Connecticut Office of Policy and Management
80 Washington Street
Hartford, CT 06106-4459
Mr. Bill Kraynak
(203) 566-1589

Delaware
Delaware Development Office
99 Kings Highway
P.O. Box 140
Dover, DE 19903
Ms. Judy McKinney-Cherry
(302) 739-4271

District of Columbia
Data Services Division
Mayor's Office of Planning
Room 570, Presidentin Bldg.
415 12th Street, NW
Washington, DC 20004
Mr. Gan Ahuja
(202) 727-6533

Florida
Florida State Data Center
Executive Office of the Governor
Office of Planning & Budgeting
The Capitol, Room 1604
Tallahassee, FL 32399-0001
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Georgia*
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254 Washington Street, SW
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Atlanta, GA 30334
Ms. Marty Sik
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590 South Marine Drive
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(808) 586-2493

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Honolulu, HI 96813
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Idaho
Idaho Department of Commerce
700 West State Street
Boise, ID 83720
Mr. Alan Porter
(208)334-2470

Louisiana*
Louisiana Office of Planning
Office & Budget
Division of Administration
P.O. Box 94095
Baton Rouge, LA 70804
Ms. Karen Paterson
(504)342-7410

Mississippi
Center for Population Studies
The University of Mississippi
Bondurant Bldg., Room 3W
University, MS 38677
Ms. Rachel McNulty, Manager
(601) 232-7288

Illinois
Illinois Bureau of the Budget
William Stratton Building
Room 605
Springfield, IL 62706
Ms. Suzanne Ebetsch
(217)782-1381

Maine
Division of Economic Analysis
and Research
Maine Department of Labor
20 Union Street
Augusta, ME 04330
Ms. Jean Martin
(207)287-2271

Missouri
Missouri State Library
600 W. Main Street
Jefferson City, MO 65102
Ms. Kate Graf
(314) 751-1823

Indiana*
Indiana State Library
Indiana State Data Center
140 North Senate Avenue
Indianapolis, IN 46204
Mr. Laurence Hathaway
(317)232-3733

Maryland
Maryland Department of State Planning
301 West Preston Street
Baltimore, MD 21201
Mr. Rober Dadd
(410)225-4450

Montana
Census and Economic Information Center
Montana Department of Commerce
1424 9th Avenue
Capitol Station
Helena, MT 59620-0501
Ms. Patricia Roberts
(406) 444-2896

Iowa
State Library of Iowa
East 12th and Grand
Des Moines, IA 50319
Ms. Beth Henning
(515)281-4350

Massachusetts*
Massachusetts Institute for Social & Economic Research
128 Thompson Hall
University of Massachusetts
Amherst, MA 01003
Dr. Stephen Coelen
(413) 545-3460

Nebraska
Center for Public Affairs Research
Nebraska State Data Center
Peter Kiewit Conference Center, #232
University of Nebraska at Omaha
Omaha, NE 68182
Mr. Jerome Deichert
(402) 595-2311

Kansas
State Library
Room 343-N
State Capitol Building
Topeka, KS 66612
Mr. Marc Galbraith
(913) 296-3296

Michigan*
Michigan Information Center
Department of Management & Budget
Office of Revenue and Tax Analysis
P.O. Box 30026
Lansing, MI 48909
Mr. Eric Swanson
(517) 373-7910

Nevada
Nevada State Library
Capitol Complex
100 Stewart Street
Carson City, NV 89710
Ms. Patricia Deadder
(702) 687-8327

Kentucky*
Center for Urban & Economic Research
College of Business & Public Administration
University of Louisville
Louisville, KY 40292
Mr. Ron Crouch
(502) 588-7990

New Hampshire*
Office of State Planning
2-1/2 Beacon Street
Concord, NH 03301-0388
Mr. Tom Duffy
(603) 271-2155

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Office & Budget
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Nebraska State Data Center
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Omaha, NE 68182
Mr. Jerome Deichert
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Lansing, MI 48909
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(517) 373-7910

New Hampshire*
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Concord, NH 03301-0388
Mr. Tom Duffy
(603) 271-2155

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(307) 777-7504
DATA FILES

Data files are available from several sources:

* Complete files from the Census Bureau cost $175 per reel of tape. For further information, contact: Data Users Services Division, Census Bureau, Washington, DC 20233, (301) 457-4100.

* Census Tapes are also available at the Inter-University Consortium for Political and Social Research (ICPSR). ICPSR is a membership-based organization. Tapes are available at no cost to members and for a charge to non-members. To inquire on availability and prices, contact: ICPSR, University of Michigan, Ann Arbor, Michigan 48106, (313) 764-2570. When this book was going to press, a file was being prepared which is expected to be available from ICPSR: it is a single tape containing 9 years of data, 1974-83, for an 8% sample of AHS homes, about 7,000 homes.

* A variety of standard files are available from Abt Associates. Others can be prepared according to user specifications. Prices vary from $150 to $2,400 (for a 9 tape file, 1974-83, of all AHS homes). To make programming easier, machine readable documentation is provided in SAS, SPSS, or FORTRAN. Smaller files designed to be used on personal computers can be prepared on diskettes instead of tapes. Contact: AHS Data Project, Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138, (617) 497-7182.

The data tapes prepared by Abt Associates differ in several ways from the files available from the Census Bureau and ICPSR:

* If you want to measure change in individual homes, like how many poor households rise in income, you can merge successive files from Census or ICPSR or buy them already merged at Abt. The merging is done by using each home’s unique control number, which is on the tapes from all three sources.

* Abt files are available in a common layout (fixed field lengths and order of variables) from year to year. Census and ICPSR file layouts are different each year until 1984, when they also start using a standard layout. Thus, the record length of Census/ICPSR files before 1984 is slightly shorter, since Abt always leaves space for questions that are on some questionnaires but not on all. Not that Abt standard files do not include on-time AHS supplements (like the 1980 Mobile Home questions). These are available by special order from Abt while they are usually included in standard Census/ICPSR files.
Abt files are available with a fixed number of records from year to year, while Census and ICPSR record counts change as units are added by new construction or lost by demolition or other causes of attrition. Abt files include dummy records for years before a unit joined the sample or after it dropped out. Users of Abt yearly files can have these dummy records included or excluded from their files.

Some analysis was performed on these files, and obvious errors were corrected in the Abt tapes. For example, geography variables which cannot change from one year to another were compared, and discrepancies resolved.

Because of the additional processing that has been done, Abt files for individual years are more expensive than Census and ICPSR files. We encourage researchers who do not need data linked across years or standardized formats to buy Census or ICPSR files; researchers who do need linked or standardized data, or want extracts of data, should purchase Abt files.

AHS files can be very large, and statistical packages may be expensive to use. A more efficient table-producing package, the BOAT Package, is available from Abt or HUD User (addresses in Publications section) with appropriate documentation. Both the Fortran source code and the documentation are on a floppy disk. This package is easy to use and can handle any data on computers from micros to supercomputers. A sample table prepared with this package is shown below.

<table>
<thead>
<tr>
<th>NUMBER OF PEOPLE IN THE U.S.</th>
<th>Total</th>
<th>0-14 YEARS OLD</th>
<th>15-29 YEARS OLD</th>
<th>30-44 YEARS OLD</th>
<th>45-59 YEARS OLD</th>
<th>60-74 YEARS OLD</th>
<th>75+ YEARS OLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>238,585K</td>
<td>52,897K</td>
<td>57,323K</td>
<td>54,563K</td>
<td>34,165K</td>
<td>28,648K</td>
<td>10,989K</td>
</tr>
<tr>
<td>% of row</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>% of column</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>AVG HSEHLD INCOM</td>
<td>35.023</td>
<td>33.255</td>
<td>35.611</td>
<td>39.994</td>
<td>42.072</td>
<td>25.998</td>
<td>17.389</td>
</tr>
<tr>
<td>% Built Before 1930</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>IN POVERTY</td>
<td>31,038K</td>
<td>10,512K</td>
<td>7,434K</td>
<td>4,811K</td>
<td>2,733K</td>
<td>3,368K</td>
<td>2,175K</td>
</tr>
<tr>
<td>% of row</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>% of column</td>
<td>13</td>
<td>20</td>
<td>13</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Conf, int, inc, nonsam</td>
<td>27-34M</td>
<td>8-12M</td>
<td>4.7-8.4M</td>
<td>2.2-5.5M</td>
<td>3.3-1.1M</td>
<td>9.3-9.9M</td>
<td>0.2-5M</td>
</tr>
<tr>
<td>% BUILT BEFORE 1930</td>
<td>21</td>
<td>20</td>
<td>20</td>
<td>19</td>
<td>22</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>ABOVE POVERTY</td>
<td>207,547K</td>
<td>42,384K</td>
<td>49,889K</td>
<td>49,752K</td>
<td>31,427K</td>
<td>25,280K</td>
<td>8,814K</td>
</tr>
<tr>
<td>% of row</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>% of column</td>
<td>87</td>
<td>80</td>
<td>71</td>
<td>91</td>
<td>92</td>
<td>88</td>
<td>80</td>
</tr>
<tr>
<td>Conf, int, inc, nonsam</td>
<td>204-212M</td>
<td>38-46M</td>
<td>46-54M</td>
<td>45-54M</td>
<td>28-35M</td>
<td>22-28M</td>
<td>6-10M</td>
</tr>
<tr>
<td>% BUILT BEFORE 1930</td>
<td>15</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>18</td>
<td>23</td>
</tr>
</tbody>
</table>
MISSING DATA

Missing data are the scourge of most surveys. There are three sources of missing data: omitted units, questions that did not apply to the unit. The combination of omitted units and unanswered questions usually totals at least 10% of the sample, and sometimes 30%.

Units are Omitted for several reasons. Only about 3% of households refuse the interview outright. These are present on the tapes with code 3 in the variable NOINT, zero weight, and minimal data such as geographic location, descriptions of the exterior, and 1980 Census characteristics if available. There are also a few units with language barriers, no one ever home, etc; present on the tapes with NOINT = 5 or less and zero weight. More important are units that simply do not show up in Census Bureau sample surveys, though we believe they exist, based on population estimates. Such units are not present on the data files, thought the variable WEIGHT is increased to represent them. In total, 8%-36% of various kinds of units are omitted (Table 1.0 on page 1-2 at the back of this book). We increase the variable weight on other units to account for all these omissions. This is an imperfect correction, so confidence intervals need to be widened as shown on page 1-2.

There are also homes where particular questions which apply to the home are Not Answered, because the respondents refuse or don't know the answer or the interviewer forgets to ask. People are particularly unwilling or unable to answer questions on income, mortgages, house value, and utilities (Table 3 in this section).

When people do not answer, the data base takes two approaches. For many questions the data base includes a code for "not answered" (usually "8", "98"). For other questions, the Census Bureau assigns, or "allocates," responses to unanswered questions by copying the responses of the last similar unit processed. This procedure preserves the distribution of responses within a variable, and preserves the mean. However, allocated data should be avoided when you compare variables or look at changes over time.

There is also a possibility that two answers are inconsistent. If so, one will be edited. For example, if rent is filled in on an owner occupied unit, it will be changed to "Not Applicable." Where the correct answer cannot be determined, the question will be treated as not answered.

When an answer is allocated, then an "allocation flag" is given in another variable, so you can see which answers were real and which were allocated. These variables and the number of allocated cases are shown for 1973-83 in Chapter 4. For surveys from 1984 on, allocation variables can be found on the record layout: their variable names have A (for Allocation) followed by 4 digits. (There is sometimes a 5th digit to distinguish the questions posed to different people in the household, using the same source code.) The same 4 digit number appears again in the record layout next to the variable being allocated. Thus you can see which allocation variable applies to which question. In the allocation variable, a one means the question's answer was allocated, and a two mean the answer was edited. (In case
you are interested the 4 digit number following the A is a sequential number printed on the
questionnaire. Thus it also helps you find each question on the questionnaire.)

When an answer is allocated, it is always taken from a 'similar' unit. Groups of units
considered "similar" are shown at the end of Chapter 4. The groups are usually based on
tenure, race, sex and general unit descriptors. Units are processed in geographic order, so
the last similar unit is normally nearby.

Table 3 shows the variables which are most frequently allocated or edited. A variable is
included in the table if it was allocated or edited 1,000 or more times in 1985. The number
of cases allocated in 1983 is shown in the last column. Percentages are based on the number
of applicable cases, rather than total cases.

Recoded variables may exhibit even more allocations, since all variables used in their
computation may be subject to allocation. For example about 20% of household interviews
have some or all of their income allocated. (Even worse, up to 30% of household interviews
have some or all of their income allocated in the longer questionnaires used by other Census
Bureau surveys with a special interest in income, and by the AHS up through 1983.) The
missing data that are allocated are in addition to the 8%-36% of households which are
omitted in the first place, as discussed above, because of refusals, weaknesses in the sample
design, etc.

Thus weights and allocations let you work with a full file of data, even though many
interviews and answers are missing in this as in other surveys and censuses. Do not treat
results as if they were highly precise. For example Crystal and Shea adjusted each source of
income for under-reporting and found the elderly were significantly better off, compared to
the non-elderly, than they appear to be based on unadjusted data (Census, 5th Annual
Research Conference Proceedings, 1989, GPO, pages 467-482). A similar problem is that
when surveys or censuses miss young minority men from families, the apparent number of
single mothers goes up artificially.

Unfortunately there are also people who lie or make a mistake rather than overtly refusing
to answer a question, for example people who understate their income to hide their prosperity
(or vice versa). One indication of this problem is the large number of people who report
annual incomes lower than their annual housing costs. This is rarely likely to be true, but
may reflect under-reporting of income. Those cases remain on the tapes, and researchers
may choose to omit them. It is usually not possible to identify all false answers, so they stay
to infect this and most other surveys and censuses.

The label Not Applicable includes three types of non-responses: (1) the interview did not
take place, (2) the unit was not in the sample and a dummy record was created, and (3) the
question was not intended to be asked of the respondent, as determined by the skip pattern.
For example, many questions are not asked on vacant units or non-interviews. Mortgage
questions are not asked of renters, etc. In three sections of this Codebook the skip patterns
are complex, and the introductions to these sections have explanatory tables: Utilities, Housing Cost and Mobile Homes. Researchers may also trace the precise skip instructions in the questionnaire.

In using this Codebook, users will notice that more than one "not applicable" code may appear for the same year (e.g., 9 and 99). This occurs for variables which changed field length over the years in the Census tapes. As mentioned above, the Abt tapes are processed in a constant layout for all years. In such cases, the smaller code (e.g., 9) identifies cases which were on the original Census tape and to which the question was not applicable. The larger code (e.g., 99) was filled in by Abt on dummy cases which represent years before a case joined the sample or after it dropped out.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Cases Allocated</th>
<th>Number of Cases</th>
<th>Cases Allocated</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1985</td>
<td>1983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VALUE</td>
<td>Property Value</td>
<td>3,564</td>
<td>12%</td>
<td>351</td>
<td>2,040</td>
</tr>
<tr>
<td>INT</td>
<td>First Mortgage Interest Rate</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VOTHER</td>
<td>Total Other Income</td>
<td>4,732</td>
<td>10%</td>
<td>15,142</td>
<td>*</td>
</tr>
<tr>
<td>SAL1</td>
<td>Wage/Non Relative Income Adult 1</td>
<td>3,420</td>
<td>7%</td>
<td>99</td>
<td>5,337</td>
</tr>
<tr>
<td>SAL2</td>
<td>Wage/Non Relative Income Adult 2</td>
<td>2,389</td>
<td>8%</td>
<td>190</td>
<td>3,160</td>
</tr>
<tr>
<td>QUNEMP</td>
<td>Income From Unemployment Compensation or Other Sources</td>
<td>544</td>
<td>1%</td>
<td>1,516</td>
<td>948</td>
</tr>
<tr>
<td>BUYG</td>
<td>Cost of Gas</td>
<td>2,404</td>
<td>6%</td>
<td>3,817</td>
<td>4,298</td>
</tr>
<tr>
<td>/AMTG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GASPPIP</td>
<td>Source of Gas</td>
<td>1,818</td>
<td>6%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>BUYW/AMTW</td>
<td>Cost of Water &amp; Sewer</td>
<td>1,838</td>
<td>4%</td>
<td>3,848</td>
<td>3,354</td>
</tr>
<tr>
<td>BILLLW</td>
<td>Water Billed With Other Utilities</td>
<td>0</td>
<td>0%</td>
<td>1,482</td>
<td>NA</td>
</tr>
<tr>
<td>BUYE/AMTE</td>
<td>Cost of Electricity</td>
<td>1,537</td>
<td>4%</td>
<td>60</td>
<td>3,533</td>
</tr>
<tr>
<td>BUOYO/AMTO</td>
<td>Cost of Oil</td>
<td>1,019</td>
<td>2%</td>
<td>23</td>
<td>2,559</td>
</tr>
<tr>
<td>BUYF/AMTF</td>
<td>Cost of Other Fuel</td>
<td>1,613</td>
<td>4%</td>
<td>19</td>
<td>NA</td>
</tr>
<tr>
<td>AMTXX</td>
<td>Real Estate Taxes Amount</td>
<td>0</td>
<td>0%</td>
<td>5,214</td>
<td>0</td>
</tr>
<tr>
<td>AMTII</td>
<td>Insurance Costs</td>
<td>0</td>
<td>0%</td>
<td>5,328</td>
<td>0</td>
</tr>
<tr>
<td>OFFICE</td>
<td># of Rooms Used for Business</td>
<td>3,040</td>
<td>17%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>NOTHRM</td>
<td>No. of Other Rooms</td>
<td>2,248</td>
<td>13%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>TENURE</td>
<td>Tenure Status</td>
<td>0</td>
<td>0%</td>
<td>1,500</td>
<td>0</td>
</tr>
<tr>
<td>STATUS</td>
<td>Occupancy Status</td>
<td>0</td>
<td>0%</td>
<td>1,500</td>
<td>0</td>
</tr>
<tr>
<td>ACCESS</td>
<td>Direct Access to Unit</td>
<td>0</td>
<td>0%</td>
<td>2,256</td>
<td>0</td>
</tr>
<tr>
<td>BUILT</td>
<td>Year Unit Was Built</td>
<td>350*</td>
<td>**</td>
<td>2,200</td>
<td>1**</td>
</tr>
<tr>
<td>ESAGR</td>
<td>Sagging Roof</td>
<td>0</td>
<td>0%</td>
<td>3,228</td>
<td>NA</td>
</tr>
<tr>
<td>EABAN</td>
<td>Abandoned Buildings</td>
<td>0</td>
<td>0%</td>
<td>1,385</td>
<td>0</td>
</tr>
<tr>
<td>BADSTEP</td>
<td>Hazardous Steps</td>
<td>0</td>
<td>0%</td>
<td>1,618</td>
<td>0</td>
</tr>
<tr>
<td>DIST11</td>
<td>Miles to Work-Person 1</td>
<td>1,012</td>
<td>3%</td>
<td>2,256</td>
<td>790</td>
</tr>
<tr>
<td>DIST12</td>
<td>Miles to Work-Person 2</td>
<td>404</td>
<td>3%</td>
<td>1,188</td>
<td>297</td>
</tr>
<tr>
<td>TIME1</td>
<td>Commute Time to Work-Person 1</td>
<td>420</td>
<td>1%</td>
<td>1,065</td>
<td>154</td>
</tr>
<tr>
<td>ALLMV79</td>
<td>All HH Members Moved From the Same Previous Residence</td>
<td>0</td>
<td>0%</td>
<td>7,114</td>
<td>NA</td>
</tr>
<tr>
<td>XATEN</td>
<td>Previous Tenure of Group 1</td>
<td>1,016</td>
<td>11%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>XAHEAD</td>
<td>Reference Person Owned/Rented</td>
<td>0</td>
<td>0%</td>
<td>2,340</td>
<td>NA</td>
</tr>
<tr>
<td>DLINE1</td>
<td>Line Number of Respondent</td>
<td>0</td>
<td>0%</td>
<td>2,004</td>
<td>0</td>
</tr>
<tr>
<td>IDATE</td>
<td>Interview Date</td>
<td>0</td>
<td>0%</td>
<td>1,364</td>
<td>0</td>
</tr>
<tr>
<td>PHONE</td>
<td>Household Has Phone</td>
<td>1,535</td>
<td>4%</td>
<td>0</td>
<td>96</td>
</tr>
<tr>
<td>RENT</td>
<td>Contract Rent</td>
<td>748</td>
<td>4%</td>
<td>984</td>
<td>920</td>
</tr>
</tbody>
</table>

*In 1983 there were individual variables, such as income from business (3% allocated), income from interest (32%), income from dividends (47%), etc.

**Less than 1%.
ACKNOWLEDGMENTS

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