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Estimates of Households, for States: 1981 to 1984

This report presents estimates of the total number of households for States for July 1, 1981, 1982, and 1983, and provisional estimates for July 1, 1984. The 1984 estimates are designated as provisional because they are based on provisional estimates of the population of States for July 1, 1984. Census counts of households for April 1, 1970, and April 1, 1980, are included for comparative purposes.

The distribution of households among the States is similar to the distribution of population. This reflects the fact that a relatively small proportion of the population of each State does not live in households (i.e., lives in group quarters), and that the average number of persons per household is similar to the national figure in most States.¹

On July 1, 1984, the estimated number of households in the United States was 86.0 million. The estimates ranged from 9.5 million in California, the most populous State, to 165,000 in Alaska, the least populous State (table 1). The ten States with the highest estimated numbers of households in 1984 are shown in table A. With the exception of Florida (which had the lowest average number of persons per household of any State in 1980) and Illinois, the ranking by number of households for these 10 States is identical to their ranking in total population.

From 1980 to 1984, the estimated national increase in households was 7.0 percent, compared with 4.2 percent in resident population. The more rapid growth in households than in population is partly due to changes in age structure as well as to changes in living arrangements. From 1980 to 1984, the population 18 years and over, which includes virtually all householders, increased by 6.6 percent. The number of persons under age 18 declined by 1.7 percent and dropped from 28.1 percent to 26.5 percent of the total

¹In 1980, 2.5 percent of the U.S. population lived in group quarters with the figure for States ranging from 1.5 percent in Nevada to 4.1 percent in Vermont, North Dakota, and Hawaii. The average number of persons per household was 2.75 and ranged from 2.55 in Florida to 3.20 in Utah. Except for Utah and Hawaii (3.15), the range for States was 2.55 to 2.97. In the District of Columbia, 5.0 percent of the population lived in group quarters, and the average number of persons per household was 2.40. Bureau of the Census, 1980 Census of Population, Volume 1, Chapter B, Part 1, table 61 (1983).

**Table A. Ten States With the Highest Estimated
Numbers of Households: July 1, 1984**

(In thousands)

State	Households	Population
California	9,502	25,622
New York	6,598	17,735
Texas	5,626	15,989
Pennsylvania	4,356	11,901
Florida	4,306	10,976
Illinois	4,179	11,511
Ohio	3,932	10,752
Michigan	3,249	9,075
New Jersey	2,694	7,515
North Carolina ...	2,221	6,165

population.² Data on household size from the Current Population Survey for March 1980 and 1984 reflect the change in age structure. The decline in the average number of persons per household (2.76 to 2.71) was entirely due to the drop among persons under age 18 (0.79 to 0.73).³

In nearly all States, the estimated percent increase in households was larger than the estimated percent increase in population between 1980 and 1984. The two exceptions were Utah and Wyoming, which were also the only two States in which the estimated proportion of the population under age 18 increased from 1980 to 1984.⁴

The 10 States with the highest estimated percent increases in households from 1980 to 1984 are shown in table B. Alaska and Nevada were first and second, respectively, in rates of increase in both households and population. The States ranked third through tenth in percent increase in households all had rates of population growth above the

²Bureau of the Census, Current Population Reports, Series P-25, No. 965, *Estimates of the Population of the United States, by Age, Sex, and Race: 1980 to 1984*, tables 2 and 4 (March 1985).

³Bureau of the Census, Current Population Reports, Series P-20, No. 391, *Households, Families, Marital Status, and Living Arrangements: March 1984 (Advance Report)*, table 3 (August 1984).

⁴Bureau of the Census, Current Population Reports, Series P-25, No. 970, *State Population Estimates, by Age and Components of Change: 1980 to 1984*, table 9 (June 1985).

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Table B. Ten States With the Highest Estimated Percent Increases in Households: April 1, 1980, to July 1, 1984

State	Percent increase in households	Percent increase in population
Alaska	25.7	24.4
Nevada	15.9	13.8
Florida	15.0	12.6
Arizona	14.3	12.3
Texas	14.1	12.4
New Mexico	12.1	9.3
Colorado	12.1	10.0
Utah	12.0	13.0
Georgia	10.8	6.8
Hawaii	10.3	7.7

national average; however, their rankings on estimated household increase and population increase were not identical. For example, Utah ranked eighth in household increase and third in population increase. The estimated per-

cent changes in households for States from 1980 to 1984 are shown in the chart and table 1.

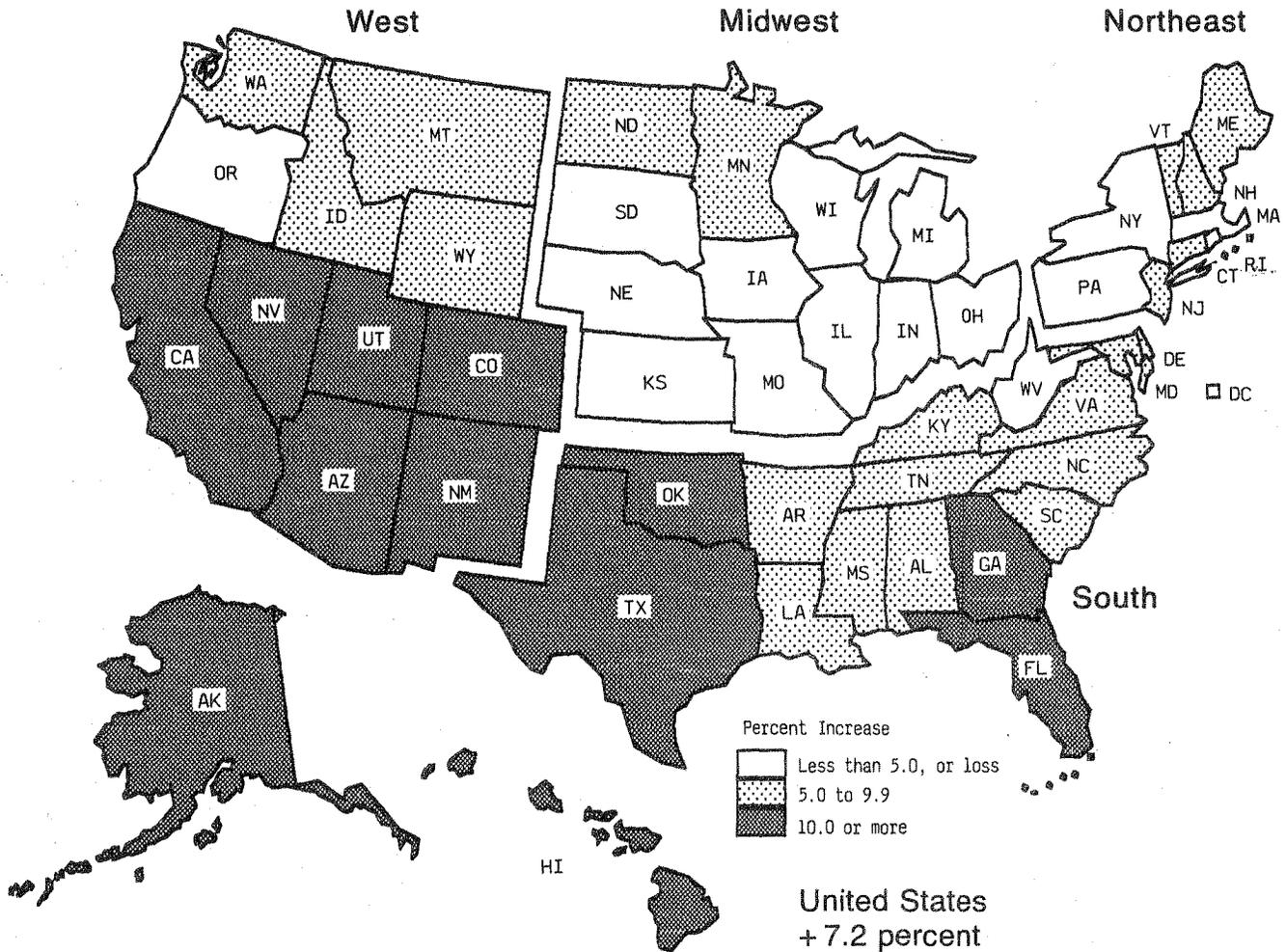
For a discussion of demographic trends for States during the 1980-84 period, see Current Population Reports, Series P-25, No. 970, *State Population Estimates, by Age and Components of Change: 1980 to 1984*.

METHOD OF ESTIMATION

The method used to prepare the estimates of households by State is based on national trends in the adult population (18 years and over) per household and is hereafter referred to as the population-per-household method. This method was selected after an evaluation of various methods for the 1970-80 decade, including the householder-proportion method used previously.⁵

⁵Bureau of the Census, Current Population Reports, Series P-25, No. 807, *Estimates of the Number of Households for States: 1977 and 1978* (July 1979).

Estimated Percent Change in Households, for States: April 1, 1980, to July 1, 1984



Annual estimates of the population 18 years and over by State are not available separately for persons living in households or in group quarters. The available annual data on group quarters population by State are limited to administrative data which included 56 percent of the group quarters population enumerated in the 1980 census and which include major group quarters facilities like college dormitories and military barracks. Since the administrative data are not available by age and since 95 percent of the group quarters population in the 1980 census was 18 years and over, it was assumed for operational purposes that the entire group quarters population was 18 years and over. An evaluation of this assumption for the 1970-80 decade showed no effect on the reliability of household estimates for 1980. This was not surprising because the group quarters population under age 18 in 1980 (275,000) represented only 0.1 percent of the total population. In the steps described below, the term "adult population" is the population 18 years and over minus the group quarters population (all ages) and is a close approximation of the household population 18 years and over.

The steps for estimating households are summarized below using July 1, 1984, for purposes of illustration. Rounded values are shown in parentheses for calculations for the Nation as a whole.

A. For the United States:

1. For 1980, calculate the adult population per household (1.9535) and the proportion of the population 18 years and over in group quarters not included in administrative data on group quarters (.0159).
2. For 1984, subtract the administrative group quarters population for 1984 or the latest year available (3,314,000) from the estimated July 1 population 18 years and over (173,469,000), multiply the result (170,155,000) by the 1980 proportion from step A-1 (.0159) to estimate the 1984 population in group quarters not included in administrative data on group quarters (2,704,000), and obtain an estimate of the adult population (167,451,000) by subtraction (170,155,000 less 2,704,000).
3. For 1984, calculate a July 1 estimate of households based on a 12-month average (January-December) of households from the Current Population Survey (86,019,000), divide the estimate of the adult population given in step A-2 by the estimated number of households to obtain the estimated adult population per household (1.9467), and divide this figure by the corresponding figure for 1980 from step A-1 (1.9535) to obtain a national factor (.9965) to use in estimating households for States.

B. For each State:

1. For 1980, calculate the adult population per household and the proportion of the population 18 years and over in group quarters not included in administrative data on group quarters.

2. For 1984, subtract the administrative group quarters population for 1984 or the latest year available from the estimated July 1 population 18 years and over, multiply the result by the 1980 proportion from step B-1 to obtain a preliminary estimate of the 1984 population in group quarters not included in administrative data on group quarters, make a small pro-rata adjustment for all States to the national control from step A-2 (2,704,000), and obtain an estimate of the adult population by subtraction.
3. Multiply the adult population per household in 1980 by the national factor from step A-3 (.9965) to obtain a 1984 estimate of the adult population per household, divide this estimate into the estimated adult population from step B-2 to obtain a preliminary estimate of households for July 1, 1984, and make a small pro-rata adjustment for all States to the national control (86,019,000).

EVALUATION OF THE METHOD

The accuracy of the estimates depends on the accuracy of the underlying data and assumptions described in the preceding section. The sources of data are the 1980 Census of Population, the Census Bureau's annual population estimates program, and the Current Population Survey. The major assumptions are that the national trend in the population 18 years and over per household since 1980 is uniform among States and that postcensal estimates of the population 18 years and over by State are reliable.

The population-per-household method was tested for the 1970-80 intercensal decade to determine the viability of the assumption that the national trend in the population 18 years and over per household was uniform during this period. More specifically, the number of households in 1980 for States was estimated by dividing the 1980 census household population 18 years and over by an estimate of the population 18 years and over per household in 1980. This estimate was derived by multiplying the population 18 years and over per household in 1970 for each State by a national factor (.9687) which is the ratio of the national population 18 years and over per household for 1980 (1.9569) divided by the corresponding figure for 1970 (2.0202).

The results of the evaluation are shown in table C. The mean (average) error in the 1980 estimates based on the population-per-household method was 0.8 percent, and the median error was 0.7 percent. Estimates based on the householder-proportion method yielded a mean error of 1.8 percent and a median error of 1.7 percent.

Household estimates for 1980 based on the population-per-household method were calculated also with two variations to simulate the methodology used in this report for developing postcensal estimates, as discussed earlier. Since data for States on the population 18 years and over per household and on the total group quarters population are available only from the decennial census, the method was evaluated using adult population per household (as defined earlier) and administrative data on group quarters. The resulting errors

Table C. Percent Errors in Estimates of Households in 1980, for States, Based on Two Methods

Percent error ¹	Population-per-household method	Householder-proportion method
Total ²	51	51
0.0 to 0.9	36	17
1.0 to 1.9	13	15
2.0 to 2.9	2	12
3.0 to 3.9	-	4
4.0 to 4.9	-	1
5.0 and over.....	-	2
Mean error (percent)	0.8	1.8
Median error (percent)	0.7	1.7

- Represents zero.

¹Without regard to sign.

²All States and District of Columbia.

(mean error and median error of 0.7 percent) were nearly identical to those shown in table C.

Annual estimates of households for States can be derived also from the monthly Current Population Survey (CPS) using 12-month averages; however, estimates based on the CPS were not used in developing the household estimates published in this report for two reasons. First, independent population controls for the CPS include estimates of the civilian noninstitutional population 16 years and over by State which are from the same source (the Census Bureau's annual estimates program) as estimates of the population 18 years and over by State (as described earlier in the section, "Method of Estimation," step B-2). Thus, CPS-based estimates of households by State are not independent (or even largely independent) of the estimates based on the population-per-household method. Second, the sampling variability of CPS-based estimates of households for States is relatively large. More specifically, the 95-percent confidence intervals for the CPS-based estimates of households for States are generally much larger than the errors that would be expected based on the population-per-household method in light of the results of the evaluation summarized in table C.

RELATED REPORTS

Estimates of households for States were last published in July 1979 in Current Population Reports, Series P-25, No. 807, *Estimates of the Number of Households for States: 1977 and 1978* (July 1979). Census data on households for States were published in the 1980 Census of Population, Volume 1, Chapter B, Part 1 (1983). The estimates presented in this report are consistent with national estimates of households and State estimates of population published in the following Current Population Reports: Series P-20, No. 391, *Households, Families, Marital Status, and Living Arrangements:*

March 1984 (Advance Report) (August 1984); Series P-20, No. 398, *Household and Family Characteristics: March 1984* (April 1985); and Series P-25, No. 970, *State Population Estimates, by Age and Components of Change: 1980 to 1984* (June 1985).

DEFINITIONS AND EXPLANATIONS

Household. A household consists of all the persons who occupy a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters; that is, when the occupants do not live and eat with any other persons in the structure and there is direct access from the outside or through a common hall.

A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated persons sharing a housing unit as partners, is also counted as a household. If there are ten or more unrelated persons living together or nine or more who are unrelated to the person in charge, the living quarters are defined as group quarters and not as a housing unit.

Group quarters. All persons not living in households are classified as living in group quarters. There are two categories of persons in group quarters. The first category is inmates of institutions and includes persons under care or custody in institutions. Examples of institutions include facilities for the physically or mentally handicapped, homes for the elderly, orphanages, and correctional institutions. The second category is "other" and includes all persons in group quarters who are not inmates of institutions. Examples of other group quarters include college dormitories, military barracks, and rooming houses.

Householder. The householder is the person (or one of the persons) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife. The person designated as the householder is the "reference person" to whom the relationship of all other household members, if any, is recorded. The number of householders is equal to the number of households.

ROUNDING OF ESTIMATES

Estimates and census counts presented in this report were rounded to the nearest thousand and may not add to group totals which were rounded independently. Percentages are based on unrounded numbers.

Table 1. Estimates of the Number of Households, for States, July 1, 1981, to July 1, 1984, the Census Counts for April 1, 1970, and April 1, 1980

(Numbers in thousands. Resident population)

Region, division, and State	Households										Population	
	July 1, 1984 (prov.)	July 1, 1983	July 1, 1982	July 1, 1981	April 1, 1980 (census)	April 1, 1970 (census)	Change, 1980-84		Average annual percent change ¹		July 1, 1984 (prov.)	Percent change, 1980-84
							Number	Percent	1980-84	1970-80		
United States.....	86,019	84,336	83,540	82,620	80,390	63,450	5,629	7.0	1.6	2.4	236,158	4.2
Region:												
Northeast.....	18,257	17,951	17,853	17,792	17,471	15,483	786	4.5	1.0	1.2	49,728	1.2
Midwest ²	21,543	21,228	21,228	21,216	20,859	17,537	683	3.3	0.8	-1.7	59,117	0.4
South.....	29,092	28,439	28,003	27,455	26,486	19,258	2,606	9.8	2.2	3.2	80,576	6.9
West.....	17,127	16,718	16,457	16,157	15,574	11,172	1,554	10.0	2.2	3.3	46,738	8.3
Northeast:												
New England.....	4,609	4,515	4,484	4,461	4,362	3,645	247	5.7	1.3	1.8	12,577	1.8
Middle Atlantic.....	13,648	13,436	13,369	13,331	13,109	11,837	539	4.1	0.9	1.0	37,151	1.0
Midwest: ²												
East North Central.....	15,078	14,859	14,876	14,883	14,654	12,383	424	2.9	0.7	1.7	41,601	-0.2
West North Central.....	6,465	6,368	6,352	6,333	6,205	5,154	259	4.2	1.0	1.9	17,515	1.9
South:												
South Atlantic.....	14,504	14,111	13,890	13,662	13,160	9,438	1,344	10.2	2.3	3.3	39,450	6.7
East South Central.....	5,339	5,242	5,211	5,169	5,051	3,868	288	5.7	1.3	2.7	15,028	2.5
West South Central.....	9,249	9,086	8,901	8,624	8,276	5,952	973	11.8	2.6	3.3	26,098	9.9
West:												
Mountain.....	4,462	4,355	4,268	4,163	3,986	2,518	476	11.9	2.7	4.6	12,553	10.4
Pacific.....	12,666	12,363	12,189	11,993	11,587	8,653	1,078	9.3	2.1	2.9	34,184	7.5
New England:												
Maine.....	420	411	408	405	395	303	25	6.4	1.4	2.7	1,156	2.8
New Hampshire.....	355	343	339	334	323	225	31	9.7	2.2	-3.6	977	6.1
Vermont.....	191	187	185	183	178	132	13	7.2	1.6	3.0	530	3.6
Massachusetts.....	2,131	2,092	2,079	2,075	2,033	1,760	98	4.8	1.1	1.4	5,798	1.1
Rhode Island.....	355	348	347	346	339	292	17	4.9	1.1	1.5	962	1.6
Connecticut.....	1,156	1,133	1,126	1,120	1,094	933	63	5.7	1.3	1.6	3,154	1.5
Middle Atlantic:												
New York.....	6,598	6,494	6,452	6,436	6,340	5,914	257	4.1	0.9	0.7	17,735	1.0
New Jersey.....	2,694	2,641	2,623	2,607	2,549	2,218	145	5.7	1.3	1.4	7,515	2.0
Pennsylvania.....	4,356	4,301	4,294	4,287	4,220	3,705	136	3.2	0.7	1.3	11,901	0.3
East North Central:												
Ohio.....	3,932	3,880	3,889	3,891	3,834	3,289	98	2.6	0.6	1.5	10,752	-0.4
Indiana.....	1,991	1,958	1,959	1,956	1,927	1,609	63	3.3	0.8	1.8	5,498	0.1
Illinois.....	4,179	4,122	4,118	4,114	4,045	3,502	133	3.3	0.8	1.4	11,511	0.7
Michigan.....	3,249	3,199	3,212	3,232	3,195	2,653	54	1.7	0.4	1.9	9,075	-2.0
Wisconsin.....	1,728	1,701	1,698	1,690	1,652	1,329	76	4.6	1.1	2.2	4,766	1.3
West North Central:												
Minnesota.....	1,519	1,497	1,492	1,483	1,445	1,154	74	5.1	1.2	2.3	4,162	2.1
Iowa.....	1,076	1,063	1,065	1,069	1,053	896	23	2.2	0.5	1.6	2,910	-0.1
Missouri.....	1,871	1,837	1,830	1,828	1,793	1,521	78	4.3	1.0	1.7	5,008	1.9
North Dakota.....	241	238	236	233	228	182	14	6.0	1.4	2.3	686	5.2
South Dakota.....	251	247	246	245	243	201	8	3.3	0.8	1.9	706	2.2
Nebraska.....	594	585	585	583	571	474	23	3.9	0.9	1.9	1,606	2.3
Kansas.....	913	902	898	892	872	727	41	4.6	1.1	1.8	2,438	3.1
South Atlantic:												
Delaware.....	223	218	214	212	207	165	16	7.7	1.8	2.3	613	3.1
Maryland.....	1,569	1,530	1,515	1,502	1,461	1,175	109	7.4	1.7	2.2	4,349	3.1
District of Columbia.....	251	249	251	253	253	263	-2	-0.9	-0.2	-0.4	623	-2.4
Virginia.....	2,029	1,975	1,950	1,924	1,863	1,391	166	8.9	2.0	2.9	5,636	5.4
West Virginia.....	704	700	699	698	686	547	17	2.5	0.6	2.3	1,952	0.1
North Carolina.....	2,221	2,160	2,133	2,105	2,043	1,510	178	8.7	2.0	3.0	6,165	4.8
South Carolina.....	1,126	1,097	1,084	1,068	1,030	734	96	9.3	2.1	3.4	3,300	5.7
Georgia.....	2,074	2,010	1,975	1,940	1,872	1,369	203	10.8	2.4	3.1	5,837	6.8
Florida.....	4,306	4,172	4,070	3,960	3,744	2,285	561	15.0	3.3	4.9	10,976	12.6
East South Central:												
Kentucky.....	1,328	1,309	1,300	1,290	1,263	984	64	5.1	1.2	2.5	3,723	1.7
Tennessee.....	1,713	1,679	1,672	1,658	1,619	1,213	95	5.9	1.3	2.9	4,717	2.7
Alabama.....	1,421	1,394	1,383	1,373	1,342	1,034	80	5.9	1.4	2.6	3,990	2.5
Mississippi.....	877	861	855	848	827	637	50	6.0	1.4	2.6	2,598	3.1
West South Central:												
Arkansas.....	861	843	836	832	816	615	45	5.5	1.3	2.8	2,349	2.7
Louisiana.....	1,532	1,508	1,490	1,462	1,412	1,052	120	8.5	1.9	2.9	4,462	6.1
Oklahoma.....	1,231	1,228	1,204	1,161	1,119	851	112	10.0	2.3	2.7	3,298	9.0
Texas.....	5,626	5,507	5,371	5,169	4,929	3,434	696	14.1	3.1	3.6	15,989	12.4
Mountain:												
Montana.....	301	296	293	290	284	217	18	6.2	1.4	2.7	824	4.7
Idaho.....	346	339	337	334	324	219	22	6.9	1.6	3.9	1,001	6.0
Wyoming.....	180	181	180	175	166	105	15	8.8	2.0	4.6	511	8.9
Colorado.....	1,189	1,168	1,141	1,109	1,061	691	128	12.1	2.7	4.3	3,178	10.0
New Mexico.....	495	481	471	459	441	289	53	12.1	2.7	4.2	1,424	9.3
Arizona.....	1,094	1,055	1,029	1,001	957	539	137	14.3	3.2	5.7	3,053	12.3
Utah.....	502	490	480	469	449	298	54	12.0	2.7	4.1	1,652	13.0
Nevada.....	353	344	338	326	304	160	49	15.9	3.5	6.4	911	13.8
Pacific:												
Washington.....	1,649	1,618	1,612	1,598	1,541	1,106	108	7.0	1.6	3.3	4,349	5.2
Oregon.....	1,025	1,010	1,015	1,017	992	692	33	3.4	0.8	3.6	2,674	1.6
California.....	9,502	9,263	9,106	8,938	8,630	6,574	872	10.1	2.3	2.7	25,622	8.3
Alaska.....	165	158	146	137	131	79	34	25.7	5.4	5.1	500	24.4
Hawaii.....	324	315	309	303	294	203	30	10.3	2.3	3.7	1,039	7.7

¹Computed using the formula for continuous compounding, $H_t = H_0 e^{rt}$, where H_0 and H_t are households at the beginning and end of the period, respectively, r is the average annual rate of change, and n is the number of years in the period. Solving for r yields the following: $r = \ln(H_t/H_0)/n$.

²Formerly the North Central Region.

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