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**After-Tax  
Money Income  
Estimates of  
Households: 1981**

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# After-Tax Money Income Estimates of Households: 1984

by  
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and  
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**SYMBOLS USED IN TABLES**

- Represents zero or rounds to zero.
  - B Base less than 75,000.
  - X Not applicable.
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## After-Tax Money Income Estimates of Households: 1981

### INTRODUCTION

This report presents estimates of after-tax household income and taxes paid by households in 1981. These estimates were made using a computer tax-simulation model based on the March 1982 Current Population Survey (CPS). The main purpose of this report is to provide a better measure of year-to-year changes in household purchasing power and of differences in purchasing power between subgroups of the population. Four types of taxes were simulated and subsequently deducted from the total money income received by households in order to estimate after-tax income: Federal individual income taxes, State individual income taxes, FICA and Federal retirement payroll taxes, and property taxes on owned housing. A discussion of the important limitations of the simulation procedures and underreporting of income in the CPS is contained in the limitations section. A detailed description of the tax simulation methodology can be found in appendix A, along with comparisons of the results of the tax simulation with data from the Internal Revenue Service and other administrative sources. A previous special study released by the Census Bureau in August 1983 contained comparable estimates of after-tax household income for 1974 and 1980.

### HIGHLIGHTS

Increasing unemployment and the onset of a recession during the second half of 1981 contributed to the decline in purchasing power of the average American household during 1981. Mean household income before taxes was \$22,790 in 1981, 2.0 percent lower than in 1980 after accounting for the 10.4 percent rise in consumer prices. Mean income after taxes was \$17,500, down 2.6 percent in real terms. The decline in mean household income after taxes would have been larger had it not been for the 1.25 percent reduction in Federal income taxes and other provisions of the Economic Recovery Tax Act of 1981. About 23 percent of before-tax household income went to pay the four

taxes covered in this study for 1981. The average amount of taxes paid among households paying taxes was \$5,720, not significantly different from 1980 after adjustment for price changes.

### AFTER-TAX INCOME

Mean household income after taxes and adjusted for inflation declined between 1980 and 1981 for most types of households (table A). Mean household income was lower for both Whites (\$18,150) and Blacks (\$12,080). Declines occurred in all four regions of the country, with mean household income after taxes highest in the West (\$18,520) and lowest in the South (\$16,910). Married-couple families, both with (\$21,760) and without children (\$21,120), and families maintained by women with children (\$10,570) all experienced declines in mean income after adjusting for price increases. On the other hand, there was some evidence that mean after-tax income increased for households in the 65-year-old-and-over category. While the average after-tax income of these households (\$12,320) was well below the national average, increases in Social Security benefits during 1981 helped keep their 1981 average near the 1980 level.

The payment of taxes reduced the income available to households for spending by about \$442 billion in 1981. This decrease in income is illustrated in table B by comparisons of the distribution of household income before and after taxes. Following the payment of taxes, the number of households with incomes of \$50,000 or more fell from about 6.0 million to 1.4 million. In contrast, the number of households with incomes less than \$15,000 increased from 33.3 million before taxes to 40.2 million after taxes. As indicated by the index of income concentration shown in table B, the four types of taxes covered in this study reduce this index of income inequality by about 10 percent. (The index is .402 before taxes and .362 after taxes.) The progressive nature of the

**Table A. Comparisons of Mean After-Tax Household Income, by Selected Characteristics:  
1981 and 1980**

(in 1981 dollars)

Characteristic	1981	1980	Percent change
All households.....	\$17,495	\$17,960	*-2.6
<b>RACE OR SPANISH ORIGIN</b>			
White.....	18,146	18,600	*-2.4
Black.....	12,083	12,638	*-4.4
Spanish origin <sup>1</sup> .....	14,816	14,955	-0.9
<b>REGION</b>			
Northeast.....	17,477	17,933	*-2.5
North Central.....	17,490	18,142	*-3.6
South.....	16,907	17,215	*-1.8
West.....	18,522	19,006	*-2.5
<b>TYPE OF FAMILY HOUSEHOLD</b>			
Married couples with children.....	21,764	22,646	*-3.9
Married couples without children.....	21,119	21,371	*-1.2
Female householder, no husband present, with related children.....	10,570	10,917	*-3.2
<b>AGE OF HOUSEHOLDER</b>			
Under 65 years.....	18,846	19,469	*-3.2
65 years and over.....	12,324	12,120	1.7

\*Significant at the 95-percent confidence level.

<sup>1</sup>Persons of Spanish origin may be of any race.

tax structure also causes a shift in the proportion of income received by households in different income quintiles. The income shares presented in table C show a drop of 44.4 percent of the aggregate before taxes to 40.9 percent after-taxes in the highest quintile. The share in the lowest quintile increased from 4.0 percent to 4.9 percent. It should be noted that these shares are based on money income and do not include the value of noncash government transfers or employee fringe benefits.

#### Taxes and the Poverty Population

The number of households with income below the poverty level was 11,676,000, up by 708,000 over 1980. (See table D.) About 67 percent of these households paid one or more of the four taxes covered in this study. The

taxes paid by poor households amounted to about 9 percent of their before-tax money incomes.

The most common type of tax paid by households below the poverty level was FICA payroll taxes: 44 percent paid this type of tax in 1981. FICA payroll taxes were followed by property taxes on owned homes (38 percent), State income taxes (15 percent), and Federal income taxes (10 percent). The percentages of poverty households paying Federal income taxes and Social Security taxes were both higher in 1981 than in 1980. The percentages paying State income taxes and property taxes were not significantly different in 1981.

The increases in the proportions of households paying Federal income taxes and Social Security taxes can be attributed in part to the increase in the number of households below the poverty level with earnings. Of the total increase of 708,000 poverty

**Table B. Number and Percentage of Households, by Before- and After-Tax Income: 1981**

(Numbers in thousands)

Household income	Before taxes		After taxes	
	Number	Percent distribution	Number	Percent distribution
Total.....	83,527	100.0	83,527	100.0
Under \$2,500.....	2,449	2.9	2,764	3.3
\$2,500 to \$4,999.....	6,308	7.6	7,015	8.4
\$5,000 to \$7,499.....	6,512	7.8	7,291	8.7
\$7,500 to \$9,999.....	5,960	7.1	7,969	9.5
\$10,000 to \$12,499.....	6,443	7.7	7,844	9.4
\$12,500 to \$14,999.....	5,615	6.7	7,363	8.8
\$15,000 to \$17,499.....	5,488	6.6	7,268	8.7
\$17,500 to \$19,999.....	4,747	5.7	6,686	8.0
\$20,000 to \$22,499.....	5,291	6.3	5,873	7.0
\$22,500 to \$24,999.....	4,216	5.0	5,156	6.2
\$25,000 to \$27,499.....	4,496	5.4	4,032	4.8
\$27,500 to \$29,999.....	3,597	4.3	3,251	3.9
\$30,000 to \$32,499.....	3,635	4.4	2,556	3.1
\$32,500 to \$34,999.....	2,679	3.2	2,015	2.4
\$35,000 to \$37,499.....	2,645	3.2	1,551	1.9
\$37,500 to \$39,999.....	1,985	2.4	1,076	1.3
\$40,000 to \$44,999.....	3,184	3.8	1,502	1.8
\$45,000 to \$49,999.....	2,285	2.7	873	1.0
\$50,000 to \$59,999.....	2,875	3.4	812	1.0
\$60,000 to \$74,999.....	1,672	2.0	485	0.6
\$75,000 and over.....	1,445	1.7	146	0.2
Median income.....	\$19,074	(X)	\$15,522	(X)
Mean income.....	\$22,787	(X)	\$17,495	(X)
Income per household member.....	\$8,389	(X)	\$6,440	(X)
Index of income concentration.....	.402	(X)	.362	(X)

X Not applicable.

**Table C. Percent Share of Aggregate Income Received by Each Fifth of Households, Before and After Taxes: 1981**

Fifth	Before taxes		After taxes	
	Lower limit	Percent share of aggregate income	Lower limit	Percent share of aggregate income
Lowest fifth.....	(X)	4.0	(X)	4.9
Second fifth.....	8,102	10.0	7,374	11.5
Third fifth.....	15,055	16.7	12,679	17.8
Fourth fifth.....	23,211	24.8	18,374	25.0
Highest fifth.....	34,374	44.4	25,887	40.9
Top 5 percent.....	55,296	16.5	39,077	14.2

X Not applicable.

**Table D. Comparisons of Households Below the Poverty Level Paying Taxes: 1981 and 1980**

(Numbers in thousands)

Characteristic	1981	1980	Difference 1981-1980
Number below the poverty level.....	11,676	10,968	*708
Percent of before-tax money income paid in taxes.....	8.7	7.6	1.1
Percent paying one or more taxes.....	67.2	65.8	*1.4
Percent paying Federal income taxes.....	10.0	7.7	*2.3
Percent paying State income taxes.....	15.0	14.1	0.9
Percent paying FICA payroll taxes.....	44.4	42.8	*1.6
Percent paying property taxes on their own home.....	37.7	36.8	0.9

\*Significant at the 95-percent confidence level.

**Table E. Comparisons of Percentage of Households Paying Taxes, Mean Taxes Paid, and Percentage of Before-Tax Money Income Paid in Taxes: 1981 and 1980**

(in 1981 dollars)

Type of tax	1981	1980	Difference 1981-80
<b>PERCENTAGE OF HOUSEHOLDS PAYING SPECIFIED TAX</b>			
One or more taxes.....	92.6	92.5	0.1
Federal income taxes.....	74.9	74.4	0.5
State income taxes.....	63.0	63.8	-0.8
FICA payroll taxes.....	74.8	75.3	-0.5
Property taxes on own home.....	63.2	63.5	-0.3
<b>MEAN AMOUNT OF TAXES PAID</b>			
One or more taxes.....	\$5,718	\$5,717	\$1
Federal income taxes.....	4,332	4,427	-95
State income taxes.....	885	948	-63
FICA payroll taxes.....	1,370	1,230	140
Property taxes on own home.....	649	635	14
<b>MEAN AMOUNT OF TAXES PAID AS A PERCENT OF MEAN TOTAL MONEY INCOME</b>			
One or more taxes.....	23.6	23.1	0.5
Federal income taxes.....	15.4	15.3	0.1
State income taxes.....	3.2	3.3	-0.1
FICA payroll taxes.....	5.2	4.6	0.6
Property taxes on own home.....	2.4	2.3	0.1
Total amount of taxes (billions).....	\$442.0	\$435.5	\$6.5
<b>PERCENTAGE OF TAXES BY TYPE OF TAX</b>			
One or more taxes.....	100.0	100.0	(X)
Federal income taxes.....	61.3	62.3	-1.0
State income taxes.....	10.5	11.4	-0.9
FICA payroll taxes.....	19.3	17.5	1.8
Property taxes on own home.....	7.8	7.6	0.2

X Not applicable.

households about 72 percent (507,000) was in households with earnings.

## DISTRIBUTION OF TAXES AND TAXES PAID

Ninety-three percent of U.S. households paid one or more of the taxes covered in this study in 1981 (table E). This proportion showed no significant change from 1980. In 1981, about 75 percent of all households paid Federal income taxes, 63 percent paid State income taxes, and 75 percent paid FICA payroll taxes. The proportion of households paying Federal income taxes was slightly higher in 1981 than in 1980, while the proportions of households paying State income taxes and FICA payroll taxes declined. The proportion of households paying property taxes on their own homes (63 percent) remained unchanged from 1980.

The mean amount of taxes paid in 1981 (\$5,720) was not significantly different than in 1980, after adjustment for inflation. Mean State individual income taxes (\$890) were at a slightly lower level in 1981 than in 1980. Mean Federal income taxes (\$4,330) showed no significant change between 1980 and 1981. The tax changes enacted in 1981 helped offset the effects of bracket creep during this period. In contrast, FICA payroll taxes averaged \$1,370 in 1981, about \$140 higher than in 1980. The mean amount of property taxes for homeowners was \$650 in 1981, slightly higher than in 1980.

The proportion of before-tax income paid in taxes averaged about 24 percent in 1981 for households paying at least one of the four types of taxes. The average for households paying Federal income taxes was about 15 percent, compared with only about 3 percent for State income taxes. Among households paying FICA payroll taxes, the average was about 5 percent of before-tax income and for property taxes about 2 percent.

Sixty-one percent of the \$442 billion in taxes paid in 1981 were Federal income taxes. FICA payroll taxes accounted for another 19 percent of the tax burden. State taxes and homeowner property taxes made up 11 and 8 percent of the total, respectively.

The after-tax income data also provide information on the average amount of taxes paid and the percentage of income paid in taxes for households at different positions along the income distribution. The percentage of average income paid in taxes, as shown in table F, gives a good approximation of the effective average tax rates by income interval.

The average tax rates paid in 1981 are very similar to those paid in 1980, except for the highest income intervals. As shown in table F, the average tax rate was 2.4 percent lower for households with incomes of \$75,000 or more. For households in the highest income

**Table F. Mean Amount of Taxes Paid as a Percentage of Mean Total Money Income: 1981 and 1980**

Before-tax money income	1981	1980	Difference 1981-80
Total.....	23.6	23.1	0.5
Under \$10,000.....	9.6	9.1	0.5
\$10,000 to \$14,999...	12.8	13.2	-0.4
\$15,000 to \$19,999...	16.7	17.3	-0.6
\$20,000 to \$24,999...	19.9	20.3	-0.4
\$25,000 to \$29,999...	22.3	22.2	0.1
\$30,000 to \$34,999...	23.9	24.0	-0.1
\$35,000 to \$39,999...	25.2	25.4	-0.2
\$40,000 to \$44,999...	26.5	26.8	-0.3
\$45,000 to \$49,999...	27.5	28.2	-0.7
\$50,000 to \$59,999...	29.7	29.9	-0.2
\$60,000 to \$74,999...	31.6	32.8	-1.2
\$75,000 or more.....	38.9	41.3	-2.4

interval, the average amount of taxes paid in 1981 was \$2,690 less than in 1980. A comparison of the data in table 6 of this report with comparable data in last year's report<sup>1</sup> indicates that most of this difference was due to the smaller average amount of Federal income taxes paid in 1981 (\$30,270) than in 1980 (\$33,040) by households with \$75,000 or more in income. The decline in average taxes paid by this group is consistent with data previously published by the Internal Revenue Service.

## LIMITATIONS ON THE ESTIMATES OF AFTER-TAX INCOME

The estimates of after-tax income shown in this report were derived by simulating the amount of taxes paid by sample households on the March Current Population Survey (CPS) data file. The tax simulation procedures were based on a "statistical" combination of data from the Internal Revenue Service (IRS), summaries of State individual income tax regulations, data on the characteristics of persons paying FICA payroll taxes from the Social Security Administration, property tax information from the Annual Housing Survey (AHS), and the March CPS microdata file. In order to combine these data sets in the estimation process, important assumptions were made that may have affected the after-tax income estimates. In addition, the general

<sup>1</sup>Current Population Reports, Series P-23, No. 126, table 7.

sampling and nonsampling errors associated with survey data, especially the underreporting of income, must always be kept in mind. Following is a brief discussion of some of the more important limitations on the estimates and the estimation process.

The first limitation that should be mentioned is the difference between CPS and IRS income concepts. One phase of the tax estimation process is the calculation of adjusted gross income (AGI) based on the CPS income. The CPS excludes capital gains (or losses) while AGI for tax purposes includes income from this source. Amounts of capital gains were simulated for the CPS in the tax estimation procedure. (See details in appendix A of this report. The computation of AGI on Federal individual income tax returns allows "adjustments" and various exclusions from total income. These include interest and dividend exclusions, moving expenses, disability income exclusion, alimony paid, and employee business expenses. A simulation of these adjustments was not attempted. Had one been developed, the estimated AGI levels from the CPS would have been lower resulting in slightly higher after-tax incomes. While, overall, the CPS estimated AGI was about the same as the IRS figure for 1981, the CPS and IRS amounts differ considerably by income type as discussed later.

Second, an initial step in the tax simulation process is the formation of tax filing units using the survey information on household relationship, marital status, and dependency rules based on income. The CPS records this information for each "permanent" household member as of the time of interview in March. The simulation of tax filing units does not, therefore, account for differences in household composition which may have existed during the year for which taxes were simulated. Because of the CPS household definition, it was also not possible to simulate dependents living outside the household. The exact effect of these limitations is difficult to estimate since some simulated tax units will have too few dependents (exemptions) and

and some will have too many. It seems likely that, overall, too few exemptions would be simulated. This situation probably results in a slight underestimate of after-tax income levels because all exemptions have not been accounted for.

The combination of IRS tax return statistics with the March CPS income data may have also affected the final estimates to a small degree because the IRS returns include units which are not contained in the CPS universe. These include 1) prior year delinquent returns, 2) returns of Armed Forces members living overseas or on base without families, and 3) returns of decedents.

The procedures for simulating Federal and State individual income taxes tend to underestimate the actual variation in taxes paid by AGI level and, therefore, may tend to underestimate the variation in after-tax incomes. This occurs because the simulation procedures used, in some cases, averages within AGI level to assign statuses and amounts to CPS tax filing units. For example, the amount of deductions for units assigned itemizing status were simulated using the IRS average proportion within AGI levels. The true variation in deductions was not simulated since all units within a specified AGI level were assigned the same proportion of their AGI as deductions. The net effect of this aspect of the simulation procedure on the final after-tax income estimates is not known.

Finally, another important limitation is the underreporting of money income in the survey. This is a common problem encountered in household surveys that attempt to collect income data. Underreporting results in a downward bias in the estimates of income from the March CPS. While income underreporting is a serious problem in household surveys such as the March CPS, its effect on measures of year-to-year change in levels of income and poverty is much less important because year-to-year variations in underreporting are relatively small. Estimates of underreporting are contained in appendix D.



**Table 1. All Households, Aggregate Income, Mean Income, Income per Household Member (Before and After Taxes), and Number of Persons in Households, by Before-Tax Money Income Levels and Selected Characteristics: 1981—Continued**

(HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

MONEY INCOME LEVELS--BEFORE TAXES	ALL HOUSEHOLDS		BEFORE TAXES				AFTER TAXES				TOTAL NUMBER OF PERSONS IN HOUSEHOLDS (THOUS.)		
			AGGREGATE INCOME		MEAN INCOME		AGGREGATE INCOME		MEAN INCOME				
	NUMBER (THOUS.)	PERCENT DISTRIBUTION	AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOL.)	STANDARD ERROR (DOL.)	INCOME PER HOUSEHOLD MEMBER (DOL.)	AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOL.)		STANDARD ERROR (DOL.)	INCOME PER HOUSEHOLD MEMBER (DOL.)
<b>RACE AND SPANISH ORIGIN OF HOUSEHOLDER--CONTINUED</b>													
<b>SPANISH ORIGIN<sup>1</sup></b>													
TOTAL . . . . .	3 980	100.0	73.1	100.0	18 373	351	5 266	59.0	100.0	14 816	248	4 247	13 886
UNDER \$2,500 . . . . .	150	3.8	0.1	0.2	3 779	231	295	0.1	0.2	650	235	246	396
\$2,500 TO \$4,999 . . . . .	346	8.7	1.3	1.8	3 863	58	1 601	1.3	2.2	3 726	60	1 544	835
\$5,000 TO \$7,499 . . . . .	413	10.4	2.5	3.5	6 157	58	2 118	2.4	4.1	5 813	57	2 000	1 201
\$7,500 TO \$9,999 . . . . .	356	8.9	3.1	4.3	8 730	61	2 548	2.9	4.9	8 027	71	2 343	1 220
\$10,000 TO \$12,499 . . . . .	366	9.2	4.1	5.6	11 106	61	3 124	3.6	6.1	9 885	71	2 780	1 302
\$12,500 TO \$14,999 . . . . .	324	8.1	4.4	6.1	13 709	63	3 912	3.8	6.5	11 866	84	3 387	1 334
\$15,000 TO \$17,499 . . . . .	288	7.2	4.7	6.4	16 142	73	4 589	3.9	6.7	13 466	103	3 879	1 014
\$17,500 TO \$19,999 . . . . .	278	7.0	4.2	7.1	18 539	64	4 941	4.3	7.3	15 471	120	4 112	1 048
\$20,000 TO \$24,999 . . . . .	264	6.6	5.6	7.6	21 111	77	5 744	4.6	7.7	17 226	130	4 687	972
\$22,500 TO \$24,999 . . . . .	193	4.9	4.6	6.3	23 690	76	6 475	3.7	6.2	19 047	152	5 206	707
\$25,000 TO \$27,499 . . . . .	196	4.9	5.1	7.0	26 109	86	6 932	4.1	6.9	20 833	172	5 531	740
\$27,500 TO \$29,999 . . . . .	133	3.3	3.8	5.2	28 813	95	7 554	3.0	5.1	22 322	212	5 983	507
\$30,000 TO \$32,499 . . . . .	126	3.2	3.9	5.3	30 930	99	7 813	3.1	5.2	24 255	223	6 117	499
\$32,500 TO \$34,999 . . . . .	82	2.1	2.8	3.8	33 789	115	8 900	2.1	3.6	26 206	314	6 902	311
\$35,000 TO \$37,499 . . . . .	110	2.8	4.0	5.5	36 264	108	8 991	3.1	5.2	27 805	249	6 894	444
\$37,500 TO \$39,999 . . . . .	73	1.8	2.8	3.9	(B)	(B)	(B)	2.2	3.7	(B)	(B)	(B)	331
\$40,000 TO \$44,999 . . . . .	92	2.3	3.9	5.4	42 382	241	10 074	2.9	5.0	31 829	405	7 566	389
\$45,000 TO \$49,999 . . . . .	63	1.6	3.0	4.1	(B)	(B)	(B)	2.2	3.8	(B)	(B)	(B)	273
\$50,000 TO \$59,999 . . . . .	66	1.7	3.5	4.8	(B)	(B)	(B)	2.6	4.3	(B)	(B)	(B)	316
\$60,000 TO \$74,999 . . . . .	32	0.8	2.1	2.9	(B)	(B)	(B)	1.5	2.5	(B)	(B)	(B)	126
\$75,000 AND OVER . . . . .	27	0.7	2.5	3.4	(B)	(B)	(B)	1.6	2.8	(B)	(B)	(B)	122
MEDIAN INCOME . . . . . DOLLARS . . . . .	15 300	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS . . . . .	419	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>REGION</b>													
<b>NORTHEAST</b>													
TOTAL . . . . .	18 000	100.0	417.4	100.0	23 190	173	8 539	314.6	100.0	17 477	113	6 436	48 882
UNDER \$2,500 . . . . .	405	2.2	0.3	0.1	714	137	388	0.2	0.1	406	147	220	746
\$2,500 TO \$4,999 . . . . .	1 418	7.9	5.6	1.3	3 934	22	2 327	5.2	1.6	3 633	28	2 148	2 397
\$5,000 TO \$7,499 . . . . .	1 439	8.0	8.9	2.1	6 162	25	3 169	8.2	2.6	5 669	30	2 915	2 798
\$7,500 TO \$9,999 . . . . .	1 190	6.6	10.3	2.5	8 683	27	4 252	9.3	3.0	7 819	35	3 529	2 430
\$10,000 TO \$12,499 . . . . .	1 302	7.2	14.5	3.5	11 168	27	4 994	12.5	4.0	9 605	42	4 295	2 911
\$12,500 TO \$14,999 . . . . .	1 170	6.5	16.0	3.8	13 675	28	5 643	13.6	4.3	11 625	47	4 797	2 835
\$15,000 TO \$17,499 . . . . .	1 129	6.3	18.3	4.4	16 179	30	6 410	15.1	4.8	13 365	56	5 296	2 850
\$17,500 TO \$19,999 . . . . .	1 019	5.7	19.1	4.6	18 725	27	7 007	15.5	4.9	15 230	59	5 699	2 723
\$20,000 TO \$24,999 . . . . .	1 156	6.4	24.4	5.8	21 085	29	7 517	19.2	6.1	16 566	59	5 906	3 243
\$22,500 TO \$24,999 . . . . .	956	5.3	22.6	5.4	23 666	29	8 194	17.7	5.6	18 541	73	6 419	2 760
\$25,000 TO \$27,499 . . . . .	1 047	5.8	27.4	6.6	26 138	31	8 504	20.8	6.6	19 905	72	6 476	3 217
\$27,500 TO \$29,999 . . . . .	729	4.1	20.9	5.0	28 688	34	9 299	15.9	5.0	21 759	84	7 053	2 250
\$30,000 TO \$32,499 . . . . .	775	4.3	24.1	5.8	31 120	35	9 564	18.0	5.7	23 249	88	7 145	2 521
\$32,500 TO \$34,999 . . . . .	579	3.2	19.5	4.7	33 631	36	9 680	14.6	4.6	25 249	113	7 268	2 012
\$35,000 TO \$37,499 . . . . .	601	3.3	21.7	5.2	36 111	39	10 289	16.0	5.1	26 663	118	7 597	2 109
\$37,500 TO \$39,999 . . . . .	474	2.6	18.3	4.4	38 640	42	10 886	13.4	4.3	28 219	133	7 950	1 683
\$40,000 TO \$44,999 . . . . .	722	4.0	30.6	7.3	42 334	72	12 247	22.2	7.0	30 715	144	8 886	2 496
\$45,000 TO \$49,999 . . . . .	536	3.0	25.2	6.0	47 057	81	13 492	17.9	5.7	33 469	171	9 596	1 868
\$50,000 TO \$59,999 . . . . .	676	3.8	36.8	8.8	54 358	147	14 330	25.6	8.1	37 825	215	9 971	2 565
\$60,000 TO \$74,999 . . . . .	387	2.1	25.5	6.1	65 928	272	18 183	17.2	5.5	44 453	372	12 260	1 402
\$75,000 AND OVER . . . . .	291	1.6	27.6	6.6	94 647	1 602	25 889	16.6	5.3	57 039	778	15 602	1 065
MEDIAN INCOME . . . . . DOLLARS . . . . .	19 825	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS . . . . .	212	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>SOUTH CENTRAL</b>													
TOTAL . . . . .	21 254	100.0	484.8	100.0	22 809	158	8 342	371.7	100.0	17 490	104	6 397	58 114
UNDER \$2,500 . . . . .	616	2.9	0.1	-	212	148	105	-0.1	-	-94	154	-46	1 251
\$2,500 TO \$4,999 . . . . .	1 425	6.7	3.5	1.1	3 852	24	2 312	5.2	1.4	3 623	26	2 175	2 373
\$5,000 TO \$7,499 . . . . .	1 562	7.3	9.7	2.0	6 216	24	3 245	9.0	2.4	5 750	26	3 002	2 992
\$7,500 TO \$9,999 . . . . .	1 498	7.0	13.0	2.7	8 666	25	4 053	11.6	3.2	7 888	34	3 688	3 203
\$10,000 TO \$12,499 . . . . .	1 662	7.8	16.6	3.8	11 195	24	4 877	16.5	4.4	9 933	34	4 328	3 814
\$12,500 TO \$14,999 . . . . .	1 404	6.6	19.2	4.0	13 665	25	5 514	16.6	4.5	11 860	41	4 784	3 479
\$15,000 TO \$17,499 . . . . .	1 446	6.8	23.4	4.8	16 190	26	6 299	17.6	5.3	13 545	45	5 270	3 716
\$17,500 TO \$19,999 . . . . .	1 158	5.5	21.7	4.5	18 736	28	6 753	19.8	4.8	15 364	55	5 538	3 214
\$20,000 TO \$24,999 . . . . .	1 380	6.5	29.2	6.0	21 144	27	7 519	23.4	6.3	16 922	55	6 018	3 881
\$22,500 TO \$24,999 . . . . .	1 155	5.4	27.4	5.7	23 723	27	7 672	21.7	5.8	18 783	55	6 075	3 571
\$25,000 TO \$27,499 . . . . .	1 175	5.5	30.7	6.3	26 136	30	8 512	23.8	6.4	20 301	65	6 612	3 607
\$27,500 TO \$29,999 . . . . .	944	4.5	27.7	5.7	28 694	28	8 894	21.3	5.7	22 149	71	6 866	3 109
\$30,000 TO \$32,499 . . . . .	1 025	4.8	31.9	6.2	31 174	31	9 470	24.2	6.5	23 605	77	7 171	3 374
\$32,500 TO \$34,999 . . . . .	752	3.5	25.3	5.2	33 694	33	10 742	19.0	5.1	25 322	94	8 073	2 358
\$35,000 TO \$37,499 . . . . .	643	3.0	25.2	4.8	36 142	37	10 706	17.3	4.7	26 943	99	7 981	2 170
\$37,500 TO \$39,999 . . . . .	544	2.6	21.1	4.3	38 722	41	10 924	15.6	4.2	28 678	113	8 091	1 929
\$40,000 TO \$44,999 . . . . .	907	4.3	35.4	7.9	42 306	64	12 313	28.1	7.6	30 969	103	9 013	3 115
\$45,000 TO \$49,999 . . . . .	609	2.9	28.7	5.9	47 164	80	13 400	20.8	5.6	34 172	128	9 709	2 142
\$50,000 TO \$59,999 . . . . .	692	3.3	37.4	7.7	54 045	149	14 543	26.2	7.1	37 893	204	10 197	2 571
\$60,000 TO \$74,999 . . . . .	336	1.6	22.1	4.6	65 653	312	19 010	15.1	4.1	44 805	312	12 972	1 162
\$75,000 AND OVER . . . . .	304	1.4	30.5	6.3	100 492	1 665	28 143	18.8	5.0	61 783	894	17 303	1 094
MEDIAN INCOME . . . . . DOLLARS . . . . .	19 691	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS . . . . .	208	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

<sup>1</sup>PERSONS OF SPANISH ORIGIN MAY BE OF ANY RACE.

**Table 1. All Households, Aggregate Income, Mean Income, Income per Household Member (Before and After Taxes), and Number of Persons in Households, by Before-Tax Money Income Levels and Selected Characteristics: 1981—Continued**

(HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

MONEY INCOME LEVELS--BEFORE TAXES	ALL HOUSEHOLDS		BEFORE TAXES					AFTER TAXES					TOTAL NUMBER OF PERSONS IN HOUSEHOLDS (THOUS.)
			AGGREGATE INCOME		MEAN INCOME		INCOME PER HOUSEHOLD MEMBER (DOL.)	AGGREGATE INCOME		MEAN INCOME		INCOME PER HOUSEHOLD MEMBER (DOL.)	
			AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOL.)	STANDARD ERROR (DOL.)		AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOL.)	STANDARD ERROR (DOL.)		
<b>REGION--CONTINUED</b>													
<b>SOUTH</b>													
TOTAL . . . . .	27 925	100.0	603.3	100.0	21 603	144	7 941	472.1	100.0	16 907	95	6 215	75 968
UNDER \$2,500 . . . . .	995	3.6	0.7	0.1	687	99	317	0.6	0.1	566	101	261	2 160
\$2,500 TO \$4,999 . . . . .	2 526	9.0	9.5	1.6	3 745	18	2 144	9.2	1.9	3 627	18	2 077	4 412
\$5,000 TO \$7,499 . . . . .	2 273	8.1	14.1	2.3	6 219	20	2 842	13.4	2.8	5 878	20	2 686	4 976
\$7,500 TO \$9,999 . . . . .	2 151	7.7	18.9	3.1	8 767	20	3 499	17.4	3.7	8 109	24	3 237	5 390
\$10,000 TO \$12,499 . . . . .	2 284	8.2	25.5	4.2	11 157	20	4 472	22.7	4.8	9 947	27	3 987	5 700
\$12,500 TO \$14,999 . . . . .	1 973	7.1	27.0	4.5	13 671	20	5 264	23.5	5.0	11 899	32	4 581	5 125
\$15,000 TO \$17,499 . . . . .	1 879	6.7	30.4	5.0	16 161	22	6 164	25.8	5.5	13 746	41	5 243	4 926
\$17,500 TO \$19,999 . . . . .	1 605	5.7	30.0	5.0	18 676	22	6 602	25.1	5.3	15 660	46	5 536	4 541
\$20,000 TO \$22,499 . . . . .	1 736	6.2	36.7	6.1	21 156	24	7 152	30.1	6.4	17 351	47	5 866	5 136
\$22,500 TO \$24,999 . . . . .	1 297	4.6	30.7	5.1	23 650	26	7 709	24.9	5.3	19 215	56	6 263	3 979
\$25,000 TO \$27,499 . . . . .	1 374	4.9	35.9	5.9	26 106	26	8 762	28.4	6.0	20 650	56	6 931	4 093
\$27,500 TO \$29,999 . . . . .	1 206	4.3	34.6	5.7	28 681	27	9 188	27.3	5.8	22 624	59	7 248	3 763
\$30,000 TO \$32,499 . . . . .	1 079	3.9	33.6	5.6	31 103	30	9 926	26.1	5.5	24 180	72	7 716	3 381
\$32,500 TO \$34,999 . . . . .	828	3.0	27.9	4.6	33 692	32	10 379	21.5	4.5	25 916	83	7 984	2 688
\$35,000 TO \$37,499 . . . . .	848	3.0	30.7	5.1	36 176	33	11 016	23.5	5.0	27 668	86	8 426	2 786
\$37,500 TO \$39,999 . . . . .	548	2.0	21.2	3.5	38 637	39	11 752	16.1	3.4	29 426	117	8 950	1 802
\$40,000 TO \$44,999 . . . . .	849	3.0	35.7	5.9	42 097	64	12 569	26.7	5.7	31 448	118	9 390	2 844
\$45,000 TO \$49,999 . . . . .	617	2.2	29.1	4.8	47 129	76	14 072	21.4	4.5	34 691	147	10 358	2 066
\$50,000 TO \$59,999 . . . . .	816	2.9	44.2	7.3	54 110	130	15 811	31.5	6.7	38 652	169	11 294	2 792
\$60,000 TO \$74,999 . . . . .	519	1.9	34.2	5.7	66 014	244	19 929	23.9	5.1	46 109	257	13 920	1 718
\$75,000 AND OVER . . . . .	521	1.9	53.0	8.8	101 563	1 584	31 310	33.1	7.0	63 389	759	19 541	1 691
MEDIAN INCOME . . . . .DOLLARS . .	17 341	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS . .	144	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>WEST</b>													
TOTAL . . . . .	16 346	100.0	397.8	100.0	24 337	177	9 057	302.8	100.0	18 522	113	6 893	43 926
UNDER \$2,500 . . . . .	432	2.6	0.1	-	187	150	94	-	-	-101	155	-51	862
\$2,500 TO \$4,999 . . . . .	940	5.7	3.7	0.9	3 983	27	2 384	3.5	1.2	3 744	29	2 242	1 569
\$5,000 TO \$7,499 . . . . .	1 238	7.6	7.6	1.9	6 106	25	3 298	7.1	2.3	5 742	26	3 101	2 291
\$7,500 TO \$9,999 . . . . .	1 121	6.9	9.9	2.5	8 748	26	3 906	9.0	3.0	8 065	31	3 601	2 510
\$10,000 TO \$12,499 . . . . .	1 196	7.3	13.4	3.4	11 193	26	4 643	12.0	3.9	9 997	35	4 146	2 883
\$12,500 TO \$14,999 . . . . .	1 068	6.5	14.7	3.7	13 724	27	5 406	12.8	4.2	12 004	41	4 728	2 712
\$15,000 TO \$17,499 . . . . .	1 034	6.3	16.7	4.2	16 139	29	6 543	14.1	4.6	13 610	51	5 518	2 550
\$17,500 TO \$19,999 . . . . .	965	5.9	18.0	4.5	18 675	27	6 723	15.0	4.9	15 530	59	5 591	2 680
\$20,000 TO \$22,499 . . . . .	1 019	6.2	21.5	5.4	21 142	28	7 775	17.4	5.7	17 072	60	6 278	2 771
\$22,500 TO \$24,999 . . . . .	809	4.9	19.2	4.8	23 714	29	8 420	15.3	5.0	18 904	68	6 712	2 278
\$25,000 TO \$27,499 . . . . .	901	5.5	23.5	5.9	26 146	30	9 078	18.4	6.1	20 472	70	7 108	2 594
\$27,500 TO \$29,999 . . . . .	698	4.3	20.0	5.0	28 694	32	9 199	15.6	5.1	22 318	86	7 155	2 177
\$30,000 TO \$32,499 . . . . .	757	4.6	23.5	5.9	31 119	34	9 978	18.0	5.9	23 749	82	7 615	2 360
\$32,500 TO \$34,999 . . . . .	521	3.2	17.6	4.4	33 777	36	11 074	13.4	4.4	25 799	107	8 459	1 588
\$35,000 TO \$37,499 . . . . .	553	3.4	20.0	5.0	36 100	37	11 675	15.0	5.0	27 121	107	8 771	1 709
\$37,500 TO \$39,999 . . . . .	418	2.6	16.2	4.1	38 693	40	11 490	12.1	4.0	28 851	133	8 567	1 409
\$40,000 TO \$44,999 . . . . .	706	4.3	30.0	7.5	42 423	66	13 259	22.0	7.3	31 186	111	9 747	2 260
\$45,000 TO \$49,999 . . . . .	524	3.2	24.6	6.2	47 324	81	13 916	18.0	5.9	34 322	148	10 093	1 782
\$50,000 TO \$59,999 . . . . .	691	4.2	37.4	9.4	54 149	126	16 107	26.1	8.6	37 833	162	11 254	2 323
\$60,000 TO \$74,999 . . . . .	430	2.6	28.3	7.1	65 692	239	18 758	19.1	6.3	44 411	270	12 681	1 508
\$75,000 AND OVER . . . . .	328	2.0	31.9	8.0	97 134	1 436	28 728	18.9	6.2	57 588	671	17 032	1 110
MEDIAN INCOME . . . . .DOLLARS . .	20 444	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS . .	189	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>TYPE OF HOUSEHOLD</b>													
<b>FAMILY HOUSEHOLDS<sup>1</sup></b>													
TOTAL . . . . .	61 019	100.0	1586.7	100.0	26 004	99	7 926	1214.7	100.0	19 907	64	6 068	200 196
UNDER \$2,500 . . . . .	1 233	2.0	-0.1	-	-113	119	-37	-0.5	-	-400	124	-132	3 733
\$2,500 TO \$4,999 . . . . .	2 191	3.6	8.6	0.5	3 918	20	1 328	8.1	0.7	3 692	23	1 251	6 467
\$5,000 TO \$7,499 . . . . .	3 267	5.4	20.5	1.3	6 274	17	2 127	19.3	1.6	5 901	19	2 001	9 636
\$7,500 TO \$9,999 . . . . .	3 616	5.9	31.7	2.0	8 750	16	2 909	29.4	2.4	8 132	20	2 700	10 890
\$10,000 TO \$12,499 . . . . .	4 284	7.0	47.9	3.0	11 189	15	3 726	43.3	3.6	10 108	19	3 366	12 862
\$12,500 TO \$14,999 . . . . .	3 957	6.5	54.2	3.4	13 688	15	4 447	47.9	3.9	12 112	22	3 935	12 180
\$15,000 TO \$17,499 . . . . .	3 997	6.5	68.8	4.1	16 199	15	5 265	55.6	4.6	13 913	26	4 522	12 298
\$17,500 TO \$19,999 . . . . .	3 661	6.0	85.6	4.3	18 724	15	5 818	57.7	4.8	15 763	29	4 898	11 782
\$20,000 TO \$22,499 . . . . .	4 232	6.9	89.5	5.4	21 152	15	6 519	73.2	6.0	17 298	30	5 331	13 730
\$22,500 TO \$24,999 . . . . .	3 469	5.7	82.2	5.2	23 693	15	7 103	66.3	5.5	19 108	33	5 728	11 570
\$25,000 TO \$27,499 . . . . .	3 716	6.1	97.1	6.1	26 134	16	7 775	76.6	6.3	20 603	34	6 129	12 490
\$27,500 TO \$29,999 . . . . .	3 107	5.1	89.1	5.6	28 684	16	8 399	69.8	5.7	22 453	37	6 574	10 611
\$30,000 TO \$32,499 . . . . .	3 171	5.2	98.7	6.2	31 124	17	9 054	75.7	6.2	23 876	42	6 946	10 901
\$32,500 TO \$34,999 . . . . .	2 400	3.9	60.8	5.1	33 690	19	9 854	61.6	5.1	25 677	52	7 510	8 204
\$35,000 TO \$37,499 . . . . .	2 389	3.9	86.3	5.4	36 138	20	10 320	65.1	5.4	27 268	53	7 787	8 367
\$37,500 TO \$39,999 . . . . .	1 811	3.0	70.0	4.4	38 671	22	10 709	52.3	4.3	28 896	66	8 002	6 538
\$40,000 TO \$44,999 . . . . .	2 920	4.8	123.5	7.8	42 298	36	12 005	91.1	7.5	31 204	62	8 856	10 287
\$45,000 TO \$49,999 . . . . .	2 113	3.5	99.7	6.3	47 185	43	13 208	72.4	6.0	34 265	78	9 592	7 549
\$50,000 TO \$59,999 . . . . .	2 656	4.4	143.9	9.1	54 202	73	14 640	101.4	8.4	38 195	99	10 317	9 833
\$60,000 TO \$74,999 . . . . .	1 519	2.5	100.0	6.3	65 844	141	18 033	68.8	5.7	45 263	158	12 396	5 547
\$75,000 AND OVER . . . . .	1 313	2.2	129.7	8.2	98 842	867	27 477	79.6	6.6	60 656	430	16 862	4 722
MEDIAN INCOME . . . . .DOLLARS . .	22 552	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS . .	111	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

<sup>1</sup> INCLUDES MALE HOUSEHOLDER, NO WIFE PRESENT, AND FEMALE HOUSEHOLDER, NO HUSBAND PRESENT, WITH NO RELATED CHILDREN UNDER 18 YEARS OLD.



















**Table 2. All Households, Aggregate Income, Mean Income, Income per Household Member (After Taxes), and Number of Persons in Households, by After-Tax Money Income Levels and Selected Characteristics: 1981—Continued**

(HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

MONEY INCOME LEVELS--AFTER TAXES	ALL HOUSEHOLDS		AGGREGATE INCOME		MEAN INCOME		INCOME PER HOUSEHOLD MEMBER (DOLLARS)	TOTAL NUMBER OF PERSONS IN HOUSEHOLDS (THOUS.)
	NUMBER (THOUSANDS)	PERCENT DISTRIBUTION	AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOLLARS)	STANDARD ERROR (DOLLARS)		
<b>RACE AND SPANISH ORIGIN OF HOUSEHOLDER--CONTINUED</b>								
<b>SPANISH ORIGIN<sup>1</sup></b>								
TOTAL . . . . .	3 980	100.0	59.0	100.0	14 815	248	4 247	13 886
UNDER \$2,500 . . . . .	159	4.0	0.1	0.2	738	226	291	418
\$2,500 TO \$4,999 . . . . .	390	9.8	1.5	2.6	3 885	56	1 586	955
\$5,000 TO \$7,499 . . . . .	471	11.8	2.9	5.0	6 241	53	2 136	1 376
\$7,500 TO \$9,999 . . . . .	462	11.6	4.1	6.9	8 846	49	2 541	1 609
\$10,000 TO \$12,499 . . . . .	436	11.0	4.9	8.3	11 263	55	3 304	1 436
\$12,500 TO \$14,999 . . . . .	412	10.4	5.7	9.6	13 725	56	3 939	1 436
\$15,000 TO \$17,499 . . . . .	359	9.0	5.8	9.9	16 277	55	4 362	1 341
\$17,500 TO \$19,999 . . . . .	308	7.7	5.8	9.8	18 748	54	4 994	1 156
\$20,000 TO \$22,499 . . . . .	223	5.6	4.7	8.0	21 214	77	5 575	850
\$22,500 TO \$24,999 . . . . .	190	4.8	4.5	7.6	23 699	82	5 889	764
\$25,000 TO \$27,499 . . . . .	155	3.9	4.1	6.9	26 278	89	6 602	617
\$27,500 TO \$29,999 . . . . .	106	2.7	3.1	5.2	28 705	108	7 144	428
\$30,000 TO \$32,499 . . . . .	93	2.3	2.9	4.9	31 183	117	6 637	435
\$32,500 TO \$34,999 . . . . .	58	1.5	2.0	3.3	(B)	(B)	(B)	268
\$35,000 TO \$37,499 . . . . .	41	1.0	1.5	2.5	(B)	(B)	(B)	171
\$37,500 TO \$39,999 . . . . .	37	0.9	1.4	2.4	(B)	(B)	(B)	179
\$40,000 TO \$44,999 . . . . .	29	0.7	1.2	2.1	(B)	(B)	(B)	160
\$45,000 TO \$49,999 . . . . .	14	0.4	0.7	1.1	(B)	(B)	(B)	68
\$50,000 TO \$59,999 . . . . .	24	0.6	1.3	2.2	(B)	(B)	(B)	117
\$60,000 TO \$74,999 . . . . .	9	0.2	0.6	1.1	(B)	(B)	(B)	35
\$75,000 AND OVER . . . . .	2	-	0.2	0.3	(B)	(B)	(B)	15
MEDIAN INCOME . . . . .DOLLARS	12 934	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS	298	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>REGION</b>								
<b>NORTHEAST</b>								
TOTAL . . . . .	18 000	100.0	314.6	100.0	17 477	113	6 436	48 882
UNDER \$2,500 . . . . .	509	2.8	0.4	0.1	707	123	382	1 943
\$2,500 TO \$4,999 . . . . .	1 600	8.9	6.2	2.0	3 894	22	2 295	2 717
\$5,000 TO \$7,499 . . . . .	1 628	9.0	10.1	3.2	6 214	24	3 264	3 100
\$7,500 TO \$9,999 . . . . .	1 689	9.4	14.8	4.7	6 788	23	4 208	3 528
\$10,000 TO \$12,499 . . . . .	1 516	8.4	17.1	5.4	11 270	24	4 617	3 701
\$12,500 TO \$14,999 . . . . .	1 607	8.9	22.1	7.0	13 738	24	5 495	4 017
\$15,000 TO \$17,499 . . . . .	1 676	9.3	27.2	8.7	16 237	23	5 889	4 621
\$17,500 TO \$19,999 . . . . .	1 455	8.1	27.2	8.7	18 731	24	6 349	4 291
\$20,000 TO \$22,499 . . . . .	1 289	7.2	27.3	8.7	21 209	26	6 793	4 024
\$22,500 TO \$24,999 . . . . .	1 049	5.8	24.9	7.9	23 716	28	7 285	3 416
\$25,000 TO \$27,499 . . . . .	900	5.0	23.6	7.5	26 183	32	7 550	3 123
\$27,500 TO \$29,999 . . . . .	705	3.9	20.2	6.4	28 693	34	8 074	2 505
\$30,000 TO \$32,499 . . . . .	550	3.1	17.2	5.5	31 212	40	9 113	1 884
\$32,500 TO \$34,999 . . . . .	473	2.6	16.0	5.1	33 704	44	9 245	1 726
\$35,000 TO \$37,499 . . . . .	285	1.6	10.3	3.3	36 156	46	9 744	1 057
\$37,500 TO \$39,999 . . . . .	240	1.3	9.3	3.0	38 777	59	9 956	934
\$40,000 TO \$44,999 . . . . .	360	2.0	15.2	4.8	42 225	94	10 777	1 411
\$45,000 TO \$49,999 . . . . .	195	1.1	9.3	2.9	47 423	137	12 190	759
\$50,000 TO \$59,999 . . . . .	172	1.0	9.4	3.0	54 332	274	12 742	735
\$60,000 TO \$74,999 . . . . .	85	0.5	5.6	1.8	65 430	583	15 823	351
\$75,000 AND OVER . . . . .	15	0.1	1.3	0.4	(B)	(B)	(B)	38
MEDIAN INCOME . . . . .DOLLARS	15 672	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS	131	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>NORTH CENTRAL</b>								
TOTAL . . . . .	21 254	100.0	371.7	100.0	17 490	104	6 397	58 114
UNDER \$2,500 . . . . .	696	3.3	0.1	-	144	141	71	1 422
\$2,500 TO \$4,999 . . . . .	1 620	7.6	6.3	1.7	3 863	23	2 305	2 715
\$5,000 TO \$7,499 . . . . .	1 752	8.2	10.9	2.9	6 226	22	3 186	3 424
\$7,500 TO \$9,999 . . . . .	1 976	9.3	17.3	4.7	8 754	21	4 158	4 160
\$10,000 TO \$12,499 . . . . .	2 028	9.5	22.8	6.1	11 261	21	4 679	4 881
\$12,500 TO \$14,999 . . . . .	1 942	9.1	26.6	7.2	13 706	21	5 374	4 954
\$15,000 TO \$17,499 . . . . .	1 882	8.9	30.6	8.2	16 257	22	5 720	5 350
\$17,500 TO \$19,999 . . . . .	1 771	8.3	33.2	8.9	18 743	22	6 323	5 291
\$20,000 TO \$22,499 . . . . .	1 558	7.3	33.1	8.9	21 210	24	6 561	5 037
\$22,500 TO \$24,999 . . . . .	1 454	6.8	34.5	9.3	23 721	25	7 207	4 787
\$25,000 TO \$27,499 . . . . .	1 032	4.9	27.0	7.3	26 132	29	7 921	3 405
\$27,500 TO \$29,999 . . . . .	840	4.0	24.1	6.5	28 717	31	8 536	2 826
\$30,000 TO \$32,499 . . . . .	716	3.4	22.3	6.0	31 177	36	8 855	2 322
\$32,500 TO \$34,999 . . . . .	554	2.6	18.7	5.0	33 722	39	9 278	2 013
\$35,000 TO \$37,499 . . . . .	362	1.7	13.1	3.5	36 181	53	9 870	1 326
\$37,500 TO \$39,999 . . . . .	274	1.3	10.6	2.9	38 688	55	10 675	943
\$40,000 TO \$44,999 . . . . .	309	1.5	13.1	3.5	42 420	114	10 626	1 234
\$45,000 TO \$49,999 . . . . .	173	0.8	8.1	2.2	46 956	137	12 416	656
\$50,000 TO \$59,999 . . . . .	165	0.8	9.0	2.4	54 408	298	14 669	611
\$60,000 TO \$74,999 . . . . .	112	0.5	7.4	2.0	65 094	545	18 004	409
\$75,000 AND OVER . . . . .	34	0.2	3.0	0.8	(B)	(B)	(B)	140
MEDIAN INCOME . . . . .DOLLARS	15 811	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . .DOLLARS	128	(X)	(X)	(X)	(X)	(X)	(X)	(X)

<sup>1</sup>PERSONS OF SPANISH ORIGIN MAY BE OF ANY RACE.

**Table 2. All Households, Aggregate Income, Mean Income, Income per Household Member (After Taxes), and Number of Persons in Households, by After-Tax Money Income Levels and Selected Characteristics: 1981—Continued**

(HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

MONEY INCOME LEVELS--AFTER TAXES	ALL HOUSEHOLDS		AGGREGATE INCOME		MEAN INCOME		INCOME PER HOUSEHOLD MEMBER (DOLLARS)	TOTAL NUMBER OF PERSONS IN HOUSEHOLDS (THOUS.)
	NUMBER (THOUSANDS)	PERCENT DISTRIBUTION	AMOUNT (BILLIONS OF DOLLARS)	PERCENT DISTRIBUTION	VALUE (DOLLARS)	STANDARD ERROR (DOLLARS)		
<b>REGION--CONTINUED</b>								
<b>SOUTH</b>								
TOTAL . . . . .	27 925	100.0	472.1	100.0	16 907	95	6 215	75 968
UNDER \$2,500 . . . . .	1 087	3.9	0.8	0.2	711	94	326	2 370
\$2,500 TO \$4,999 . . . . .	2 711	9.7	10.3	2.2	3 781	18	2 141	4 787
\$5,000 TO \$7,499 . . . . .	2 540	9.1	15.9	3.4	6 256	19	2 875	5 527
\$7,500 TO \$9,999 . . . . .	2 880	10.3	25.3	5.4	8 790	17	3 550	7 134
\$10,000 TO \$12,499 . . . . .	2 758	9.9	31.0	6.6	11 244	18	4 536	6 838
\$12,500 TO \$14,999 . . . . .	2 381	8.5	32.7	6.9	13 729	19	5 128	6 375
\$14,000 TO \$17,499 . . . . .	2 320	8.3	37.6	8.0	16 223	19	5 737	6 560
\$17,500 TO \$19,999 . . . . .	2 134	7.6	40.0	8.5	18 732	20	6 175	6 474
\$20,000 TO \$22,499 . . . . .	1 872	6.7	39.8	8.4	21 237	22	6 991	5 687
\$22,500 TO \$24,999 . . . . .	1 613	5.8	38.2	8.1	23 686	24	7 319	5 221
\$25,000 TO \$27,499 . . . . .	1 278	4.6	33.5	7.1	26 234	25	8 068	4 156
\$27,500 TO \$29,999 . . . . .	974	3.5	28.0	5.9	28 702	30	8 651	3 231
\$30,000 TO \$32,499 . . . . .	744	2.7	23.2	4.9	31 185	35	9 235	2 512
\$32,500 TO \$34,999 . . . . .	541	1.9	18.2	3.9	33 611	40	9 845	1 847
\$35,000 TO \$37,499 . . . . .	489	1.8	17.7	3.8	36 201	42	10 205	1 736
\$37,500 TO \$39,999 . . . . .	272	1.0	10.5	2.2	38 654	52	11 328	929
\$40,000 TO \$44,999 . . . . .	493	1.8	20.9	4.4	42 362	81	12 305	1 698
\$45,000 TO \$49,999 . . . . .	280	1.0	13.2	2.8	47 350	117	13 315	994
\$50,000 TO \$59,999 . . . . .	281	1.0	15.4	3.3	54 649	225	15 295	1 005
\$60,000 TO \$74,999 . . . . .	198	0.7	13.1	2.8	66 143	371	20 442	640
\$75,000 AND OVER . . . . .	79	0.3	6.9	1.5	87 699	1 651	28 218	246
MEDIAN INCOME . . . . . DOLLARS	14 586	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS	114	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>WEST</b>								
TOTAL . . . . .	16 348	100.0	302.8	100.0	18 522	113	6 893	43 926
UNDER \$2,500 . . . . .	1 470	2.9	-	-	82	146	41	937
\$2,500 TO \$4,999 . . . . .	1 084	6.6	4.3	1.4	3 951	25	2 369	1 807
\$5,000 TO \$7,499 . . . . .	1 371	8.4	8.5	2.8	6 174	24	3 271	2 590
\$7,500 TO \$9,999 . . . . .	1 424	8.7	12.5	4.1	8 801	23	3 908	3 207
\$10,000 TO \$12,499 . . . . .	1 541	9.4	17.3	5.7	11 252	23	4 741	3 658
\$12,500 TO \$14,999 . . . . .	1 433	8.8	19.7	6.5	13 747	23	5 421	3 633
\$15,000 TO \$17,499 . . . . .	1 390	8.5	22.6	7.5	16 235	23	6 055	3 726
\$17,500 TO \$19,999 . . . . .	1 326	8.1	24.8	8.2	18 728	23	6 646	3 735
\$20,000 TO \$22,499 . . . . .	1 154	7.1	24.5	8.1	21 204	26	7 102	3 446
\$22,500 TO \$24,999 . . . . .	1 039	6.4	24.7	8.1	23 750	27	7 534	3 274
\$25,000 TO \$27,499 . . . . .	821	5.0	21.6	7.1	26 245	30	8 120	2 654
\$27,500 TO \$29,999 . . . . .	732	4.5	21.1	7.0	28 763	32	8 722	2 414
\$30,000 TO \$32,499 . . . . .	546	3.3	17.1	5.6	31 248	37	9 597	1 778
\$32,500 TO \$34,999 . . . . .	446	2.7	15.0	5.0	33 718	40	10 214	1 473
\$35,000 TO \$37,499 . . . . .	415	2.5	15.0	5.0	36 220	44	10 855	1 385
\$37,500 TO \$39,999 . . . . .	290	1.8	11.2	3.7	38 662	52	10 876	1 030
\$40,000 TO \$44,999 . . . . .	339	2.1	14.4	4.7	42 309	91	11 831	1 214
\$45,000 TO \$49,999 . . . . .	225	1.4	10.7	3.5	47 525	119	12 539	852
\$50,000 TO \$59,999 . . . . .	193	1.2	10.4	3.4	53 948	230	15 208	686
\$60,000 TO \$74,999 . . . . .	90	0.6	5.9	2.0	65 605	573	15 958	372
\$75,000 AND OVER . . . . .	18	0.1	1.5	0.5	(B)	(B)	(B)	54
MEDIAN INCOME . . . . . DOLLARS	16 530	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS	138	(X)	(X)	(X)	(X)	(X)	(X)	(X)
<b>TYPE OF HOUSEHOLD</b>								
<b>FAMILY HOUSEHOLDS<sup>2</sup></b>								
TOTAL . . . . .	61 019	100.0	1214.7	100.0	19 907	64	6 068	200 196
UNDER \$2,500 . . . . .	1 382	2.3	-0.2	-	-145	113	-48	4 203
\$2,500 TO \$4,999 . . . . .	2 489	4.1	9.8	0.8	3 945	19	1 339	7 331
\$5,000 TO \$7,499 . . . . .	3 444	6.0	23.0	1.9	6 311	15	2 139	10 755
\$7,500 TO \$9,999 . . . . .	4 833	7.9	42.6	3.5	8 820	13	2 931	14 546
\$10,000 TO \$12,499 . . . . .	5 293	8.7	59.7	4.9	11 273	13	3 705	16 104
\$12,500 TO \$14,999 . . . . .	5 413	8.9	74.4	6.1	13 746	13	4 470	16 645
\$15,000 TO \$17,499 . . . . .	5 743	9.4	93.3	7.7	16 254	12	5 084	18 360
\$17,500 TO \$19,999 . . . . .	5 614	9.2	105.2	8.7	18 742	13	5 742	18 325
\$20,000 TO \$22,499 . . . . .	5 135	8.4	109.0	9.0	21 231	13	6 360	17 142
\$22,500 TO \$24,999 . . . . .	4 637	7.6	109.9	9.1	23 713	14	6 940	15 843
\$25,000 TO \$27,499 . . . . .	3 652	6.0	95.7	7.9	26 203	16	7 527	12 713
\$27,500 TO \$29,999 . . . . .	2 983	4.9	85.7	7.1	28 725	17	8 154	10 508
\$30,000 TO \$32,499 . . . . .	2 360	3.9	73.6	6.1	31 202	20	8 822	8 346
\$32,500 TO \$34,999 . . . . .	1 866	3.1	62.9	5.2	33 687	22	9 251	6 794
\$35,000 TO \$37,499 . . . . .	1 444	2.4	52.2	4.3	36 182	25	9 883	5 286
\$37,500 TO \$39,999 . . . . .	994	1.6	38.5	3.2	38 688	29	10 334	3 722
\$40,000 TO \$44,999 . . . . .	1 397	2.3	59.1	4.9	42 329	50	11 054	5 350
\$45,000 TO \$49,999 . . . . .	809	1.3	38.3	3.2	47 342	68	12 148	3 153
\$50,000 TO \$59,999 . . . . .	746	1.2	40.6	3.3	54 417	137	13 961	2 908
\$60,000 TO \$74,999 . . . . .	451	0.7	29.7	2.4	65 775	258	17 375	1 707
\$75,000 AND OVER . . . . .	134	0.2	11.6	1.0	86 555	1 044	25 448	457
MEDIAN INCOME . . . . . DOLLARS	18 262	(X)	(X)	(X)	(X)	(X)	(X)	(X)
STANDARD ERROR . . . . . DOLLARS	72	(X)	(X)	(X)	(X)	(X)	(X)	(X)

<sup>2</sup>INCLUDES MALE HOUSEHOLDER, NO WIFE PRESENT, AND FEMALE HOUSEHOLDER, NO HUSBAND PRESENT, WITH NO RELATED CHILDREN UNDER 18 YEARS OLD.

















**Table 3. Mean Income and Income per Household Member (Before and After Taxes), by Selected Characteristics: 1981 and 1980 (in 1981 Constant Dollars)**

(AN ASTERISK (\*) PRECEDING PERCENT CHANGE INDICATES STATISTICALLY SIGNIFICANT CHANGE AT THE 95-PERCENT CONFIDENCE LEVEL. FOR MEANING OF SYMBOLS, SEE TEXT)

CHARACTERISTIC	MEAN INCOME						INCOME PER HOUSEHOLD MEMBER					
	BEFORE TAXES			AFTER TAXES			BEFORE TAXES			AFTER TAXES		
	1981 (DOL.)	1980 (DOL.)	PERCENT CHANGE	1981 (DOL.)	1980 (DOL.)	PERCENT CHANGE	1981 (DOL.)	1980 (DOL.)	PERCENT CHANGE	1981 (DOL.)	1980 (DOL.)	PERCENT CHANGE
ALL HOUSEHOLDS . . . . .	22 787	23 248	*-2.0	17 495	17 960	*-2.6	8 389	8 521	*-1.5	6 440	6 583	*-2.2
RACE AND SPANISH ORIGIN OF HOUSEHOLDER												
WHITE . . . . .	23 742	24 186	*-1.8	18 146	18 600	*-2.4	8 896	9 018	*-1.4	6 799	6 935	*-2.0
BLACK . . . . .	14 856	15 419	*-3.7	12 083	12 638	*-4.4	4 975	5 176	*-3.9	4 047	4 242	*-4.6
SPANISH ORIGIN <sup>1</sup> . . . . .	18 373	18 403	-0.2	14 816	14 955	-0.9	5 266	5 304	-0.7	4 247	4 311	-1.5
REGION												
NORTHEAST . . . . .	23 190	23 674	*-2.0	17 477	17 933	*-2.5	8 539	8 681	-1.6	6 436	6 576	*-2.1
NORTH CENTRAL . . . . .	22 809	23 466	*-2.8	17 490	18 142	*-3.6	8 342	8 581	*-2.8	6 397	6 634	*-3.6
SOUTH . . . . .	21 603	21 747	-0.7	16 907	17 215	*-1.8	7 941	7 900	0.5	6 215	6 254	-0.6
WEST . . . . .	24 337	25 019	*-2.7	18 522	19 006	*-2.5	9 057	9 334	*-3.0	6 893	7 091	-2.8
TYPE OF HOUSEHOLD												
FAMILY HOUSEHOLDS . . . . .	26 004	26 619	*-2.3	19 907	20 505	*-2.9	7 926	8 088	*-2.0	6 068	6 230	*-2.6
MARRIED-COUPLE FAMILIES, WITH NO RELATED CHILDREN UNDER 18 YEARS . . . . .	27 805	27 999	-0.7	21 119	21 371	*-1.2	11 819	12 010	-1.6	8 977	9 167	*-2.1
MARRIED-COUPLE FAMILIES, WITH RELATED CHILDREN UNDER 18 YEARS . . . . .	28 771	29 701	*-3.1	21 764	22 646	*-3.9	6 740	6 952	*-3.0	5 099	5 301	*-3.8
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT, WITH RELATED CHILDREN UNDER 18 YEARS . . . . .	12 310	12 637	-2.6	10 570	10 917	*-3.2	3 613	3 727	-3.1	3 102	3 219	-3.6
ALL OTHER FAMILY HOUSEHOLDS . . . . .	20 910	21 610	*-3.2	16 668	17 314	*-3.7	7 945	8 227	-3.4	6 333	6 592	-3.9
NONFAMILY HOUSEHOLDS . . . . .	14 066	14 029	0.3	10 953	11 004	-0.5	11 860	11 797	0.5	9 236	9 253	-0.2
AGE OF HOUSEHOLDER												
15 TO 24 YEARS . . . . .	15 073	15 703	*-4.0	12 175	12 786	*-4.8	6 585	6 983	*-5.7	5 319	5 686	-6.5
25 TO 29 YEARS . . . . .	20 262	21 217	*-4.5	15 648	16 558	*-5.5	7 743	7 964	-2.8	5 980	6 215	-3.8
30 TO 34 YEARS . . . . .	23 932	24 486	*-2.3	18 134	18 718	*-3.1	7 586	7 694	-1.4	5 748	5 882	-2.3
35 TO 39 YEARS . . . . .	26 789	27 766	*-3.5	19 968	20 842	*-4.2	7 572	7 716	-1.9	5 644	5 792	-2.6
40 TO 44 YEARS . . . . .	29 656	29 968	-1.0	22 004	22 444	-2.0	8 085	8 053	0.4	5 999	6 031	-0.5
45 TO 49 YEARS . . . . .	30 175	31 919	*-5.5	22 415	23 802	*-5.8	8 674	9 002	-3.6	6 443	6 713	-4.0
50 TO 54 YEARS . . . . .	30 009	30 299	-1.0	22 208	22 541	-1.5	9 658	9 863	-2.1	7 147	7 338	-2.6
55 TO 59 YEARS . . . . .	28 150	28 481	-1.2	20 744	21 107	-1.7	11 047	11 277	-2.0	8 141	8 357	-2.6
60 TO 64 YEARS . . . . .	22 749	23 071	-1.4	17 430	17 768	-1.9	10 382	10 643	-2.5	7 955	8 196	-2.9
65 YEARS AND OVER . . . . .	14 246	13 938	2.2	12 324	12 120	1.7	8 202	7 994	2.6	7 096	6 952	2.1
SIZE OF HOUSEHOLD												
1 PERSON . . . . .	12 308	12 120	1.6	9 619	9 524	1.0	12 308	12 120	1.6	9 619	9 524	1.0
2 PERSONS . . . . .	22 875	23 115	-1.0	17 624	17 945	*-1.8	11 334	11 459	-1.1	8 732	8 896	*-1.8
3 PERSONS . . . . .	26 539	26 916	-1.4	20 171	20 622	*-2.2	8 745	8 899	-1.7	6 647	6 818	-2.5
4 PERSONS . . . . .	29 031	29 713	*-2.3	21 915	22 599	*-3.0	7 237	7 432	*-2.6	5 463	5 652	-3.3
5 PERSONS . . . . .	29 056	31 043	*-6.4	22 301	23 812	*-6.3	5 790	6 208	*-6.7	4 444	4 762	-6.7
6 PERSONS . . . . .	29 942	30 772	-2.7	23 430	24 184	-3.1	4 978	5 129	-2.9	3 896	4 031	-3.3
7 PERSONS OR MORE . . . . .	28 512	30 110	*-5.3	23 017	24 326	*-5.4	3 676	3 872	-5.1	2 968	3 128	-5.1
TENURE												
OWNER OCCUPIED . . . . .	26 122	26 652	*-2.0	19 753	20 285	*-2.6	9 076	9 195	*-1.3	6 863	6 998	-1.9
RENTER OCCUPIED, INCLUDING NO CASH RENT . . . . .	15 883	16 066	-1.1	12 820	13 056	*-1.8	6 669	6 782	-1.7	5 383	5 511	-2.3

<sup>1</sup>PERSONS OF SPANISH ORIGIN MAY BE OF ANY RACE.

**Table 4. Number of Poverty Households, Mean Household Income (Before and After Taxes), and Percent of Households Paying Specified Taxes: 1981**

(HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

CHARACTERISTIC	NUMBER (THOUSANDS)	MEAN HOUSEHOLD INCOME		TAXES AS A PERCENT OF TOTAL MONEY INCOME	PERCENT OF HOUSEHOLDS PAYING					
		BEFORE TAXES (DOLLARS)	AFTER TAXES (DOLLARS)		ONE OR MORE TAXES	FEDERAL INCOME TAXES	STATE INCOME TAXES	FICA PAYROLL TAXES	FEDERAL RETIREMENT TAXES	PROPERTY TAXES
TOTAL . . . . .	11 676	4 633	4 229	8.7	67.2	10.0	15.0	44.4	0.8	37.7
RACE AND SPANISH ORIGIN OF HOUSEHOLDER										
WHITE . . . . .	8 410	4 555	4 115	9.7	71.5	10.7	15.7	45.5	0.6	42.4
BLACK . . . . .	2 974	4 727	4 431	6.3	55.4	7.6	12.5	40.8	1.4	24.9
SPANISH ORIGIN <sup>1</sup> . . . . .	971	5 608	5 262	6.2	61.3	12.6	6.3	52.5	0.5	22.2
TYPE OF HOUSEHOLD										
FAMILY HOUSEHOLDS <sup>2</sup>	6 851	5 234	4 787	8.5	73.2	9.2	16.8	56.5	1.1	37.8
MARRIED-COUPLES FAMILIES: WITH NO REL. CHILD UNDER 18	1 195	3 328	2 986	10.3	75.2	6.0	9.7	38.2	0.1	58.9
WITH REL. CHILD UNDER 18	2 199	6 315	5 726	9.3	90.0	12.8	24.0	78.0	1.5	46.1
FEMALE HOUSEHOLDER, NO HUSBAND PRESENT, WITH RELATED CHILDREN UNDER 18	2 877	5 206	4 851	6.8	59.4	7.0	13.6	48.4	1.4	21.9
NONFAMILY HOUSEHOLDS . . . . .	4 826	3 780	3 435	9.1	58.7	11.1	12.4	27.4	0.3	37.5
AGE OF HOUSEHOLDER										
15 TO 24 YEARS . . . . .	1 385	5 006	4 574	8.6	70.3	18.6	24.5	67.4	0.8	6.7
25 TO 29 YEARS . . . . .	1 365	5 174	4 722	8.7	59.9	15.1	20.5	62.5	1.3	19.9
30 TO 34 YEARS . . . . .	1 206	5 312	4 797	9.7	72.9	12.0	19.3	62.1	0.9	29.0
35 TO 39 YEARS . . . . .	998	5 908	5 263	10.9	78.8	13.3	23.2	67.3	1.6	40.2
40 TO 44 YEARS . . . . .	725	5 225	4 622	11.6	75.4	12.6	19.0	63.0	1.3	42.1
45 TO 49 YEARS . . . . .	593	4 895	4 378	10.6	78.1	12.6	20.9	62.8	0.6	45.0
50 TO 54 YEARS . . . . .	685	4 374	3 972	9.2	72.4	10.7	18.2	50.2	1.3	47.7
55 TO 59 YEARS . . . . .	708	4 436	3 830	13.7	72.3	13.9	18.2	44.7	0.3	53.3
60 TO 64 YEARS . . . . .	827	3 748	3 436	8.3	65.6	5.9	10.1	28.1	0.2	56.3
65 YEARS AND OVER . . . . .	3 185	3 729	3 560	4.5	53.2	1.1	2.2	8.2	0.4	48.6
NUMBER OF EARNERS										
NO EARNERS . . . . .	5 938	3 540	3 401	3.9	38.7	0.6	1.0	(X)	(X)	38.2
1 EARNER . . . . .	3 888	4 841	4 350	10.1	95.4	14.3	25.1	87.2	1.4	35.0
2 EARNERS . . . . .	1 475	7 178	6 160	14.2	99.4	30.4	37.4	96.8	1.8	39.6
3 EARNERS . . . . .	288	8 977	7 820	12.9	100.0	33.1	42.9	98.8	2.4	48.5
4 EARNERS OR MORE . . . . .	88	12 351	10 590	14.3	100.0	34.5	41.8	100.0	5.5	55.5

<sup>1</sup>PERSONS OF SPANISH ORIGIN MAY BE OF ANY RACE.

<sup>2</sup>INCLUDES MALE HOUSEHOLDER, NO WIFE PRESENT, AND FEMALE HOUSEHOLDER, NO HUSBAND PRESENT, WITH NO RELATED CHILDREN UNDER 18 YEARS OLD.

**Table 5. Number and Percent of Households Paying Taxes, by Level of Before-Tax Money Income and Type of Tax: 1981**

(NUMBERS IN THOUSANDS. HOUSEHOLDS AS OF MARCH 1982. FOR MEANING OF SYMBOLS, SEE TEXT)

BEFORE-TAX MONEY INCOME	ALL HOUSE- HOLDS	HOUSEHOLDS PAYING											
		ONE OR MORE TAXES		FEDERAL INCOME TAXES		STATE INCOME TAXES		FICA PAYROLL TAXES		FEDERAL RETIREMENT TAXES		PROPERTY TAXES	
		NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL . . . . .	83 527	77 314	92.6	62 577	74.9	52 615	63.0	62 441	74.8	3 143	3.8	52 800	63.2
UNDER \$2,500 <sup>1</sup> . . . . .	2 449	1 492	60.9	22	0.9	113	4.6	777	31.8	3	0.1	1 004	41.0
\$2,500 TO \$4,999 . . . . .	6 308	3 636	57.6	311	4.9	490	7.8	1 706	27.1	15	0.2	2 426	38.5
\$5,000 TO \$7,499 . . . . .	6 512	5 014	77.0	1 360	20.9	1 597	24.5	2 852	43.8	44	0.7	2 970	45.6
\$7,500 TO \$9,999 . . . . .	5 960	5 297	88.9	2 553	42.8	2 537	42.6	3 503	58.8	84	1.4	2 877	48.3
\$10,000 TO \$12,499 . . . . .	6 443	6 222	96.6	4 517	70.1	3 626	56.3	4 540	70.5	92	1.4	3 379	52.4
\$12,500 TO \$14,999 . . . . .	5 615	5 507	98.1	4 509	80.3	3 594	64.0	4 186	74.6	134	2.4	3 080	54.9
\$15,000 TO \$17,499 . . . . .	5 488	5 427	98.9	4 974	90.6	4 048	73.8	4 415	80.5	128	2.3	3 143	57.3
\$17,500 TO \$19,999 . . . . .	4 747	4 727	99.6	4 511	95.0	3 641	76.7	3 989	84.0	169	3.6	2 890	60.9
\$20,000 TO \$22,499 . . . . .	5 291	5 286	99.9	5 195	98.2	4 270	80.7	4 572	86.4	211	4.0	3 470	65.6
\$22,500 TO \$24,999 . . . . .	4 216	4 212	99.9	4 171	98.9	3 424	81.2	3 708	87.9	213	5.0	2 864	67.9
\$25,000 TO \$27,499 . . . . .	4 496	4 493	100.0	4 476	99.6	3 688	82.0	4 019	89.4	231	5.1	3 308	73.6
\$27,500 TO \$29,999 . . . . .	3 597	3 597	100.0	3 591	99.8	2 931	81.5	3 276	91.1	215	6.0	2 646	73.6
\$30,000 TO \$32,499 . . . . .	3 635	3 633	99.9	3 627	99.8	2 955	81.3	3 384	93.1	229	6.3	2 835	78.0
\$32,500 TO \$34,999 . . . . .	2 679	2 679	100.0	2 676	99.9	2 286	83.8	2 485	92.8	168	6.3	2 142	80.0
\$35,000 TO \$37,499 . . . . .	2 645	2 645	100.0	2 645	100.0	2 191	82.8	2 437	92.1	156	5.9	2 135	80.7
\$37,500 TO \$39,999 . . . . .	1 985	1 985	100.0	1 985	100.0	1 679	84.6	1 845	93.0	142	7.2	1 642	82.7
\$40,000 TO \$44,999 . . . . .	3 184	3 184	100.0	3 178	99.8	2 696	84.7	2 998	94.1	271	8.5	2 678	84.1
\$45,000 TO \$49,999 . . . . .	2 285	2 285	100.0	2 284	99.9	1 965	86.0	2 121	92.8	183	8.0	1 989	87.0
\$50,000 TO \$59,999 . . . . .	2 875	2 875	100.0	2 875	100.0	2 440	84.9	2 700	93.9	245	8.5	2 522	87.7
\$60,000 TO \$74,999 . . . . .	1 672	1 672	100.0	1 672	100.0	1 376	82.3	1 572	94.0	123	7.3	1 473	88.1
\$75,000 AND OVER . . . . .	1 445	1 445	100.0	1 444	100.0	1 107	76.7	1 356	93.9	86	6.0	1 325	91.7

<sup>1</sup>INCLUDES HOUSEHOLDS WITH LOSSES.

**Table 6. Mean Taxes Paid and Mean Taxes Paid as a Percentage of Mean Before-Tax Income, by Level of Before-Tax Money Income and Type of Tax: 1981**

(FOR MEANING OF SYMBOLS, SEE TEXT)

BEFORE-TAX MONEY INCOME	ONE OR MORE TAXES		FEDERAL INCOME TAXES		STATE INCOME TAXES		FICA PAYROLL TAXES		FEDERAL RETIREMENT TAXES		PROPERTY TAXES	
	MEAN TAX (DOLLARS)	PERCENT	MEAN TAX (DOLLARS)	PERCENT	MEAN TAX (DOLLARS)	PERCENT	MEAN TAX (DOLLARS)	PERCENT	MEAN TAX (DOLLARS)	PERCENT	MEAN TAX (DOLLARS)	PERCENT
TOTAL . . . . .	5 718	23.6	4 332	15.4	885	3.2	1 370	5.2	1 461	4.4	649	2.4
UNDER \$2,500 <sup>1</sup> . . . . .	358	12.7	(8)	(X)	28	2.3	127	32.0	(8)	(X)	390	14.4
\$2,500 TO \$4,999 . . . . .	531	8.5	118	2.8	34	1.1	190	4.9	(8)	(X)	431	4.9
\$5,000 TO \$7,499 . . . . .	825	9.4	330	5.2	69	1.1	325	5.2	(8)	(X)	392	6.3
\$7,500 TO \$9,999 . . . . .	1 338	12.0	480	5.4	109	1.2	457	5.2	352	4.0	431	4.9
\$10,000 TO \$12,499 . . . . .	1 865	15.6	747	6.7	169	1.5	619	5.5	512	4.6	438	3.9
\$12,500 TO \$14,999 . . . . .	2 608	16.1	1 067	7.8	229	1.7	746	5.4	684	5.0	462	3.4
\$15,000 TO \$17,499 . . . . .	3 245	17.4	1 452	9.0	307	1.9	917	5.7	873	5.4	485	3.0
\$17,500 TO \$19,999 . . . . .	4 125	19.5	1 805	9.7	384	2.1	1 046	5.6	858	4.6	512	2.7
\$20,000 TO \$22,499 . . . . .	4 806	20.3	2 295	10.9	493	2.3	1 236	5.8	1 021	4.8	552	2.6
\$22,500 TO \$24,999 . . . . .	5 782	22.1	2 713	11.5	597	2.5	1 347	5.7	1 220	5.1	569	2.4
\$25,000 TO \$27,499 . . . . .	6 427	22.4	3 279	12.5	736	2.8	1 526	5.8	1 342	5.1	649	2.5
\$27,500 TO \$29,999 . . . . .	7 404	23.8	3 738	13.0	820	2.9	1 633	5.7	1 323	4.6	625	2.2
\$30,000 TO \$32,499 . . . . .	8 114	24.1	4 329	13.9	976	3.1	1 773	5.7	1 502	4.8	695	2.2
\$32,500 TO \$34,999 . . . . .	8 988	24.9	4 825	14.3	1 085	3.2	1 871	5.6	1 501	4.5	695	2.1
\$35,000 TO \$37,499 . . . . .	9 862	25.5	5 426	15.0	1 189	3.3	2 008	5.6	1 727	4.8	773	2.1
\$37,500 TO \$39,999 . . . . .	11 196	26.5	5 993	15.5	1 309	3.4	2 140	5.5	1 653	4.3	790	2.0
\$40,000 TO \$44,999 . . . . .	12 988	27.5	6 922	16.4	1 511	3.6	2 229	5.3	1 772	4.2	901	2.1
\$45,000 TO \$49,999 . . . . .	16 084	29.7	8 245	17.5	1 774	3.8	2 400	5.1	2 147	4.5	944	2.0
\$50,000 TO \$59,999 . . . . .	20 814	31.6	10 642	19.6	2 209	4.1	2 572	4.8	2 216	4.1	1 097	2.2
\$60,000 TO \$74,999 . . . . .	28 484	38.9	14 635	22.2	2 909	4.4	2 768	4.2	2 677	4.0	1 120	1.7
\$75,000 AND OVER . . . . .	30 274	30.6	15 186	5.3	2 747	2.8	2 714	2.9	1 634	1.6		

<sup>1</sup>INCLUDES HOUSEHOLDS WITH LOSSES.

**Table 7. Total Taxes Paid and Percentage of Total Taxes Paid, by Level of Before-Tax Money Income and Type of Tax: 1981**

(FOR MEANING OF SYMBOLS, SEE TEXT)

BEFORE-TAX MONEY INCOME	TOTAL TAXES PAID (BIL. OF DOL.)	PERCENT OF TOTAL TAXES PAID					
		TOTAL	FEDERAL INCOME TAXES	STATE INCOME TAXES	FICA PAYROLL TAXES	FEDERAL RETIREMENT TAXES	PROPERTY TAXES
TOTAL . . . . .	442.0	100.0	61.3	10.5	19.3	1.0	7.8
UNDER \$2,500 <sup>1</sup> . . . . .	0.6	100.0	1.4	0.6	17.7	0.1	80.4
\$2,500 TO \$4,999 . . . . .	1.3	100.0	2.9	1.7	25.4	0.2	69.8
\$5,000 TO \$7,499 . . . . .	2.7	100.0	16.9	4.2	34.8	0.5	43.8
\$7,500 TO \$9,999 . . . . .	4.4	100.0	28.0	6.3	36.6	0.7	28.4
\$10,000 TO \$12,499 . . . . .	8.3	100.0	40.5	7.3	33.8	0.6	17.8
\$12,500 TO \$14,999 . . . . .	10.3	100.0	46.8	8.0	30.4	0.9	13.9
\$15,000 TO \$17,499 . . . . .	14.2	100.0	51.0	8.8	28.6	0.8	10.8
\$17,500 TO \$19,999 . . . . .	15.3	100.0	53.1	9.1	27.2	0.9	9.6
\$20,000 TO \$22,499 . . . . .	21.8	100.0	54.7	9.6	25.9	1.0	8.8
\$22,500 TO \$24,999 . . . . .	20.2	100.0	55.9	10.1	24.7	1.3	8.0
\$25,000 TO \$27,499 . . . . .	26.0	100.0	56.5	10.5	23.6	1.2	8.3
\$27,500 TO \$29,999 . . . . .	23.1	100.0	58.1	10.4	23.1	1.2	7.2
\$30,000 TO \$32,499 . . . . .	26.9	100.0	56.4	10.7	22.3	1.3	7.3
\$32,500 TO \$34,999 . . . . .	21.7	100.0	59.4	11.2	21.4	1.2	6.8
\$35,000 TO \$37,499 . . . . .	23.8	100.0	60.4	11.0	20.6	1.1	6.9
\$37,500 TO \$39,999 . . . . .	19.6	100.0	60.8	11.2	20.2	1.2	6.6
\$40,000 TO \$44,999 . . . . .	35.6	100.0	61.7	11.4	18.7	1.3	6.8
\$45,000 TO \$49,999 . . . . .	29.7	100.0	63.4	11.7	17.1	1.3	6.3
\$50,000 TO \$59,999 . . . . .	46.2	100.0	66.2	11.7	15.0	1.2	6.0
\$60,000 TO \$74,999 . . . . .	34.8	100.0	70.3	11.5	12.5	0.9	4.7
\$75,000 AND OVER . . . . .	55.6	100.0	78.7	10.3	6.7	0.4	3.9

<sup>1</sup>INCLUDES HOUSEHOLDS WITH LOSSES.

## Appendix A. Methodology and Procedures

This section describes the methodology and procedures which were developed to estimate taxes paid for the March 1982 CPS microdata files. In all, four types of taxes were simulated: 1) Federal individual income taxes, 2) State individual income taxes, 3) property taxes on owner-occupied housing, and 4) payroll taxes.

Development of the after-tax simulation procedures began with the March CPS annual demographic supplement. This microdata file contains demographic and economic information for approximately 60,500 sample households and the persons living in these households. It includes detailed information on household and family relationship; age; marital status; race and ethnicity; educational attainment; weeks and hours worked during the calendar year; occupation, industry, and class of worker of the job held longest during the calendar year; and income amounts for wages and salary, nonfarm and farm self-employment income, interest, dividends, rental income, estates and trusts, royalties, pension income, unemployment compensation, and sources of nontaxable income as described in appendix B.

The second major element in the simulation system were statistical summaries of individual income tax returns compiled by the Internal Revenue Service. These statistics are made available in the IRS publication series, Statistics of Income (SOI). Some unpublished statistical summaries from the IRS were also used to develop these procedures.

A third element was the 1981 Annual Housing Survey microdata file. This element was used to assign property taxes paid to the March CPS sample households residing in owner-occupied housing.

Finally, in order to estimate proportions of tax filers owning homes and itemizing deductions, tabulations were made from Interview No. 5 (6) of the 1979 Income Survey Development Program.

The system for estimating taxes paid and after-tax income created a modified March CPS microdata file. This file was formed by expanding the March CPS format to include variables relevant to the simulation of taxes paid. The detailed tables contained in this report were derived from this modified March CPS data file.

### Federal Income Taxes

Simulation of Federal income taxes required up to four separate operations. First was the formation and classification of tax filing units using household relationship, marital status, and dependency rules. Second, was the calculation of adjusted gross income for each of those units. Third was the simulation of amount of Federal income taxes paid. Finally, the calculation of earned income tax credits was made, when applicable.

Formation and classification of federal income tax filing units. A Federal tax filing "unit" was defined as any individual (or married couple) with either \$400 in self-employment income, \$1,000 in wages or salary, or a total of \$1,000 in interest, dividends, rents and royalties, estates and trusts, or pension income in 1981. These income levels were chosen because they either corresponded to tax laws or helped bring the estimated number of filing units on the CPS in line with 1981 IRS Statistics of Income (SOI) data.

The next step in the formation of Federal tax filing units was the assignment of dependency status. The algorithm for assigning dependency for each tax unit used the following rules:

- All filing primary family householders and spouses were included as dependents on their own tax returns.
- All children under age 15 who were members of the primary family were counted as dependents on the return of the family householder. Children aged 15 and over (except related subfamily members) with a total taxable income of less than \$1,000 were assigned dependency to the tax return of the primary family householder. Children aged 15 and over who were students were assigned dependency to the primary family householder regardless of income level.
- All other primary family members (except related subfamily members) with taxable

income of less than \$1,000 were assigned as dependents on the tax return of the primary family householder.

- Related subfamilies having at least one Federal tax filing unit were treated separately in the same manner as primary families. Members of a related subfamily containing no Federal tax filing unit were assigned dependency to the tax return of the primary family householder.
- All unrelated subfamilies were treated in the same manner as primary families.
- Primary and secondary unrelated individuals age 15 and over were treated as dependents only on their own tax returns.

All simulated filing units were classified into one of three return types. Married couples and persons whose marital status was "married, spouse absent in Armed Forces" were assumed to file joint returns. Unmarried family householders with dependents were assumed to file head of household returns. All other persons classified as Federal tax filing units were assumed to file as single individuals.

Computation of adjusted gross income. Adjusted gross income (AGI) for each simulated tax filing unit was calculated by summing the income amounts from all taxable sources and an imputed amount for capital gains. The sources of CPS income included in AGI were wages and salaries, net farm and nonfarm self-employment income, net rental and royalty income, dividends, interest, estates and trusts, and income from private and government pensions.

Capital gains were imputed to tax filing units based on data obtained from Statistics of Income (SOI) reports summarizing information reported on Federal tax returns. These data provide estimates of the probability that a filing unit in a given AGI interval reported capital gains and the mean amount of capital gains for that interval. A Monte Carlo technique was used to randomly assign capital gains: a random number (between 0 and 1) was generated for each filing unit; if that number was less than or equal to the probability of filing units in that AGI interval reporting capital gains, the mean amount of capital gains, as computed above, was added to that unit's AGI. This procedure does not control on demographic and other characteristics which might affect the allocation of this source of income.

In the calculation of adjusted gross income, a portion of unemployment compensation was also included in AGI if the sum of AGI and unemployment compensation for that tax unit exceeded \$20,000 (\$25,000 for joint returns). In these cases, the lesser of 1) the amount of unemployment compensation or 2) one-half of

the difference between the sum of AGI and unemployment compensation and the income limit was included in AGI.

Computation of taxable income and taxes paid. Taxable income was computed by subtracting the estimated allowable deductions from AGI. The first step in this process consisted of predicting which filing units itemized deductions. Homeownership was determined to be the most important variable available from the CPS for assigning itemization status to tax filers. Outlined below is a step-by-step description of the procedures used to assign itemization status.

1. A statistical match was made of the March CPS and Annual Housing Survey (AHS) data files in order to assign a monthly mortgage amount and a property tax amount to each owner-occupied unit on the March CPS file.<sup>1</sup>
2. Probabilities of itemizing for homeowner, tax-filing units were computed by size of monthly mortgage payment from the 1979 Income Survey Development Program (ISDP) test panel. Probabilities for renters were computed by AGI level.
3. The probabilities described in step 2 were used to randomly assign itemization status within monthly mortgage (or AGI) intervals using the same Monte Carlo technique used in the assignment of capital gains.
4. The amount of itemized deductions for tax filing units was computed by multiplying AGI by the ratio of itemized deductions to AGI for all units in that AGI interval as reported by IRS. The ratios of itemized deductions to AGI levels were published in the 1981 SOI reports.

Next, a standard deduction was estimated for each tax filing unit by multiplying the number of exemptions by \$1,000. Taxable income was then estimated by subtracting the itemized and standard deductions from AGI. Tax liability was then computed using the appropriate tax schedule for that simulated return type.

Computation of the earned income tax credit. Earned income tax credits were simulated for the 1981 tax model. These tax credits were used in the calculation of net Federal tax liability and computation of after-tax household income for filing units with one or more

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<sup>1</sup>A detailed description of the CPS-AHS statistical match can be found later in this appendix.

dependent children, less than \$10,000 in AGI, and earnings between \$1 and \$10,000.

### State Individual Income Taxes

There were 44 States that required payment of individual income taxes in 1981. For the purpose of this model, the definitions of tax filing units and AGI used for the estimation of Federal income taxes were also used for the simulation of State income taxes.

The amounts of State individual income taxes paid were computed by developing a model of each State's income tax regulations. Information on the State tax systems was obtained from a publication entitled, State Tax Handbook; October 1, 1982. While every detail of each State's income tax system was not simulated, most of the important aspects were accounted for.

### Property Taxes on Owner-Occupied Housing

Property taxes were estimated using the data file created by the statistical match of the March 1982 CPS and the 1981 AHS. In the statistical match, property tax amounts reported on the 1981 AHS for owner-occupied housing were assigned to CPS households with similar characteristics (as defined by the matching variables). These amounts of property tax were used directly in the simulation. Property taxes paid on secondary residences such as vacation homes, could not be simulated. Also, the proportion of rent that pays the property taxes on renter-occupied housing units was not estimated.

### Payroll Taxes

The Social Security payroll tax (FICA) and the Federal Employee Retirement tax were simulated using occupation of longest job and earnings data reported on the CPS. Social Security payroll taxes were calculated directly from the reported CPS earnings using the Social Security payroll tax formula for 1981. For wages and salary, the tax rate used was 6.65 percent up to a maximum of \$29,700. The tax rate for self-employment was 9.3 percent of the amount between \$400 and \$29,700. Not all workers were assigned coverage under Social Security and, therefore, a small number were not subject to Social Security taxes. All Federal employees and specific proportions of workers in certain occupation groups were assigned noncovered status. Unpublished statistics supplied by the Social Security Administration were used to make these assignments.

Retirement taxes paid by each Federal employee were simulated by multiplying their wages and salary amount by the 7.0 percent

tax rate. The identification of Federal employees was based on the class of worker of longest job as reported on the survey.<sup>2</sup>

### COMPARISON OF SIMULATION RESULTS WITH DATA FROM IRS AND OTHER INDEPENDENT SOURCES

The procedures described in the preceding section were translated into a computer simulation model. Tables A-1 through A-6 in this section provide a basic evaluation of the accuracy of this model by presenting comparison of the simulation results with data from independent sources.

#### Number of Federal Tax Filing Units

The 1981 CPS tax simulation yielded 94.3 million Federal tax filing units, about 1 percent lower than the 1981 IRS Statistics of Income figure of 95.4 million. (See table A-1.) While the CPS simulated number of married-couple returns (47.0 million) was about the same as the IRS figure, the simulated number of head-of-household returns (7.0 million) was about 17 percent lower than the IRS figure. An examination of this problem has shown that the inability to identify dependents not residing in the CPS households was the main cause of this underestimate. This problem also contributes to the lower number of simulated exemptions. The total number of exemptions from the model was 223.4 million, about 3 percent lower than the IRS total of 231.2 million.

#### Amount of Adjusted Gross Income

Shown in tables A-2 and A-3 are comparisons of IRS and CPS distributions of adjusted gross income and numbers of returns with specified income types. The CPS simulated aggregate adjusted gross income was \$1,744.3 billion, 2 percent lower than the IRS figure of \$1,772.6 billion. While the CPS and IRS adjusted gross income amounts are slightly different, there are major differences in the

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<sup>2</sup>According to the National Income and Product Accounts published by the Bureau of Economic Analysis (BEA), neither Social Security (FICA) nor Federal Employee Retirement payments are treated as taxes. Instead, they are both included under Federal Government receipts as "Contributions for Social Insurance." We have included them under the broad heading of taxes here for convenience as both are mandatory deductions from gross earnings.

**Table A-1. Comparison of IRS and CPS Simulated Number of Federal Individual Tax Returns, by Type of Return and Number of Exemptions: 1981**

(Numbers in thousands)

Type of return	Number of returns		Total exemptions	
	CPS	IRS	CPS	IRS
Total returns.....	94,291	95,396	223,362	231,222
Married returns, total.....	46,960	47,197	159,097	162,252
Married, filing jointly.....	46,960	45,698	159,097	159,688
Married, filing separately <sup>1</sup> .....	(NA)	1,499	(NA)	2,565
Head of household returns, total.....	7,015	8,489	18,924	22,620
Surviving spouse returns <sup>1</sup> .....	(NA)	113	(NA)	315
Other head of household returns.....	7,015	8,376	18,924	22,305
Single returns.....	40,317	39,711	45,341	46,350

NA Not available.

<sup>1</sup>Not a separate filing unit type in the CPS simulation model.

**Table A-2. Comparison of IRS and CPS Simulated Number of Federal Individual Income Tax Returns, by Adjusted Gross Income: 1981**

(Numbers in thousands)

Adjusted gross income	Number of returns		Percent difference
	CPS	IRS	
Total.....	94,291	95,396	-1.2
Under \$2,000.....	6,730	7,426	-9.3
\$2,000 to \$3,999.....	8,846	7,682	15.2
\$4,000 to \$5,999.....	6,977	7,321	-4.7
\$6,000 to \$7,999.....	6,296	7,289	-13.6
\$8,000 to \$9,999.....	6,047	6,680	-9.5
\$10,000 to \$11,999.....	5,818	6,201	-6.2
\$12,000 to \$14,999.....	7,933	7,993	-0.8
\$15,000 to \$19,999.....	10,850	10,998	-1.3
\$20,000 to \$24,999.....	9,408	9,117	3.2
\$25,000 to \$29,999.....	7,361	7,205	2.2
\$30,000 to \$39,999.....	9,527	9,205	3.5
\$40,000 to \$49,999.....	4,256	4,182	1.8
\$50,000 to \$74,999.....	3,076	2,797	10.0
\$75,000 and over.....	1,166	1,301	-10.4

components of total adjusted gross income. Although the IRS data indicate a larger amount of wages and salary income and interest and dividend income than the CPS, the CPS recorded

significantly larger amounts of self-employment and pension income. Larger total amounts of self-employment income recorded by the CPS can be attributed to the far fewer

**Table A-3. Comparison of IRS and CPS Simulated Number of Federal Individual Income Tax Returns and Adjusted Gross Income, by Type of Income: 1981**

(Numbers in thousands and aggregate adjusted gross income in billions of dollars)

Type of income	Number of returns		Aggregate adjusted gross income			
	CPS	IRS	CPS		IRS	
			Amount	Percent distribution	Amount	Percent distribution
Total AGI.....	94,291	95,396	1,744.3	100.0	1,772.6	100.0
Wages and salary.....	81,388	84,209	1,436.7	82.4	1,486.1	83.8
Nonfarm self-employment.....	8,701	9,571	100.8	5.8	53.1	3.0
Farm self-employment.....	1,775	2,641	9.2	0.5	-7.8	-0.4
Interest and dividends.....	26,072	34,144	94.5	5.4	178.1	10.0
Rents and royalties.....	7,628	8,609	14.2	0.8	3.1	0.2
Pensions.....	10,062	8,157	62.7 <sup>1</sup>	3.6	51.9	2.9
Other income included in AGI.....	(NA)	(NA)	26.2	1.5	8.1	0.5

NA Not available.

<sup>1</sup>Includes nontaxable pensions or the nontaxable portions of pensions.

number of losses reported in the survey than on tax returns. The reasons for these differences are not fully understood. The larger amount of pension income from the CPS probably occurs because the IRS aggregate pension income figure is based only on the fully taxable amount of the pension while the CPS records the total pension amount.

**Number of Federal Taxable Returns and Amount of Taxable Income**

The 1981 CPS simulation estimated 76.1 million Federal tax filing units with taxable income (before accounting for the earned income tax credit). This estimate is about 1 percent lower than the IRS figure of 76.7 million. (See table A-4.)

While, overall, there are relatively small differences between the simulated CPS number of taxable returns, there are significant differences in the lowest and highest AGI intervals as shown in table A-4. The smaller number of returns in the "Under \$4,000" category for the CPS (about 44 percent less) probably reflects the significantly smaller number of losses in self-employment income reported employment income reported on the survey. In the "\$75,000 and over" category, the CPS estimate is about 10 percent lower than IRS for

the number of taxable returns. The lower estimate in the "\$75,000 and over" category from the CPS are largely due to underreporting of income in the survey and various other aspects of nonsampling error. It should be noted that should be noted that the large underestimate in this category is preceded by a significant CPS overestimate in the "\$50,000 to \$74,999" interval.

**Amount of Federal Income Taxes Paid (Net Tax Liability)**

According to the CPS simulation, the total amount of Federal individual income taxes paid in 1981 was \$274.2 billion, about 16 percent of the estimated CPS adjusted gross income. (See table A-4.) This estimate is 3 percent lower than the IRS total of \$282.3 billion in net tax liability for 1981. Overall, the IRS and CPS proportion of taxes paid by adjusted gross income level are quite similar as indicated in table A-4.

**State Income Taxes Paid**

The CPS tax simulation yielded \$47.1 billion in State income taxes paid in 1981.

**Table A-4. Comparison of IRS and CPS Simulated Number of Taxable Returns, Federal Income Tax, and Income Taxes Paid as a Percent of Adjusted Gross Income: 1981**

(Numbers in thousands and taxes in billions of dollars)

Adjusted gross income	Number of taxable returns			Total Federal income tax		Federal income taxes as a percent of adjusted gross income	
	CPS	IRS	Percent difference	CPS	IRS	CPS	IRS
Total.....	76,108	76,684	-0.8	274.2	282.3	15.7	15.9
Under \$4,000 <sup>1</sup> .....	1,228	2,209	-44.4	.1	.2	0.1	1.3
\$4,000 to \$5,999 <sup>1</sup> .....	4,576	4,904	-6.7	.9	1.1	2.6	3.0
\$6,000 to \$7,999.....	5,176	5,351	-3.3	2.1	2.6	4.9	5.0
\$8,000 to \$9,999.....	5,814	6,033	-3.6	3.7	4.1	7.0	6.9
\$10,000 to \$11,999.....	5,756	5,972	-3.6	5.5	5.9	8.8	8.7
\$12,000 to \$14,999.....	7,915	7,796	1.5	10.8	11.0	10.3	10.2
\$15,000 to \$19,999.....	10,850	10,830	0.2	22.7	22.5	12.2	11.8
\$20,000 to \$24,999.....	9,408	9,028	4.2	28.2	27.2	13.5	13.3
\$25,000 to \$29,999.....	7,361	7,160	2.8	29.5	28.5	14.7	14.4
\$30,000 to \$39,999.....	9,527	9,172	3.9	53.6	51.7	16.4	16.3
\$40,000 to \$49,999.....	4,256	4,158	2.4	35.6	34.8	18.9	18.8
\$50,000 to \$74,999.....	3,076	2,780	10.6	43.0	36.1	23.7	22.0
\$75,000 and over.....	1,166	1,291	-9.7	38.5	56.7	31.9	32.0

<sup>1</sup>Single returns with AGI less than \$3,300 and joint returns with AGI less than \$5,400 were not considered taxable under the CPS simulation, even though a small percentage of those returns do incur a tax liability.

According to the Bureau of the Census publication entitled "Quarterly Summary of State and Local Tax Revenue: October-December 1981," the net amount of individual income taxes collected by the States during calendar year 1981 was \$43.9 billion. The overestimation of State income taxes paid by the CPS tax simulation can be attributed to several factors. First, the simulation did not account for every detail of each State's income tax regulations. Second, the simulation did not include various State tax credits and exemptions which could not be computed from the data available on the March CPS file; these included credits for home energy-saving expenditures, charitable contributions, etc.

#### Payroll Taxes

According to the simulation, Social Security payroll taxes totaled \$85.5 billion in 1981. This estimate is about 3 percent lower than the aggregate amount of \$88.5 billion according to figures from the Social Security Administration. Based on administra-

tive statistics from the Office of Personnel Management, Federal retirement taxes totaled \$4.1 billion in 1981. The comparable figure from the tax simulation model was somewhat higher, \$4.6 billion. The higher estimate of Federal retirement tax may have occurred because the CPS wage and salary figure represents the amount received from all jobs, not just Federal employment. Also, there are a number of noncontributory retirement programs within the Federal system which could not be simulated and a small number of employees not covered by any Federal retirement program.

#### Amount of Property Taxes

The simulation produced an estimated \$34.3 billion in property taxes for 1981. This compares with the \$30.3 billion figure published in the National Income Accounts by the Bureau of Economic Analysis (BEA). The BEA figure is based on the 1970 census and updated annually using relationships as of that time and is likely less accurate than that produced by this simulation.

## Appendix B. Definitions and Explanations

Population coverage. This report includes the civilian noninstitutional population of the United States (the 50 States and the District of Columbia) and members of the Armed Forces living off post or with their families on post, but excludes all other members of the Armed Forces.

Money income before taxes. The before-tax money income distributions and income summary measures (such as medians and means) shown in this report are limited to money income before payment of Federal, State, local, or Social Security (FICA) taxes and before any other types of deductions, such as union dues and Medicare premiums. Total money income before taxes is the sum of the amounts received from wages and salaries, self-employment income (including losses), Social Security, Supplemental Security Income, public assistance, interest, dividends, rent, royalties, estates or trusts, veterans' payments, unemployment and workers' compensations, private and government retirement and disability pensions, alimony, child support, and any other source of money income which was regularly received. Capital gains (or losses) and lump sum or onetime payments such as life insurance settlements are excluded.

Money income after taxes. To compute the after-tax money income distributions and summary measures shown in this report, simulated Federal and State income taxes, Social Security (FICA) taxes, and property taxes were deducted from total money income before taxes as defined above. Total money income after taxes also includes capital gains, which were imputed to some households during the Federal income tax simulation.

Underreporting. As in most household surveys, the estimates of the number of money income recipients and the total amount of money income derived from the March CPS are somewhat less than comparable estimates derived from independent sources, such as the Bureau of Economic Analysis, Social Security Administration, and Veterans Administration. The difference between the survey estimate and the independent estimate is generally termed "underreporting." Underreporting tends to be more pronounced for income sources such as

public assistance and welfare, unemployment compensation, and property income (interest, dividends, and net rental income). Estimates of income from wages and salaries tend to have less underreporting than most income types. For 1979 (the latest year for which estimates of underreporting are available), underreporting of total money income was about 11 percent. For further details concerning the reporting of money income, see Current Population Reports, Series P-60, No. 137.

Poverty definition. Families and unrelated individuals are classified as being above or below the poverty level using the poverty index originated at the Social Security Administration in 1964 and revised by Federal Interagency Committees in 1969 and 1980. The poverty index is based solely on money income and does not reflect the fact that many low-income persons receive noncash benefits such as food stamps, Medicaid, and public housing. The index is based on the Department of Agriculture's 1961 Economy Food Plan and reflects the different consumption requirements of families based on their size and composition. It was determined from the Department of Agriculture's 1955 Survey of Food Consumption that families of three or more persons spend approximately one-third of their income on food; the poverty level for these families was, therefore, set at three times the cost of the Economy Food Plan. For smaller families and persons living alone, the cost of the economy food plan was multiplied by factors that were slightly higher in order to compensate for the relatively larger fixed expenses of these smaller households. The poverty thresholds are updated every year to reflect changes in the Consumer Price Index (CPI). The average poverty threshold for a family of four was \$9,287 in 1981, about 10.4 percent higher than the comparable 1980 cutoff of \$8,385. Weighted average poverty thresholds by size of family are shown in table A-1. For further details, see Current Population Reports, Series P-60, No. 138.

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

**Table B-1. Weighted Average Poverty Thresholds in 1981**

Size of family unit	Threshold
One person (unrelated individual)..	\$ 4,620
15 to 64 years.....	4,729
65 years and over.....	4,359
Two persons.....	5,917
Householder 15 to 64 years.....	6,111
Householder 65 years and over....	5,498
Three persons.....	7,250
Four persons.....	9,287
Five persons.....	11,007
Six persons.....	12,449
Seven persons.....	14,110
Eight persons.....	15,655
Nine persons or more.....	18,572

**Table B-2. Annual Average Consumer Price Index (CPI): 1947 to 1981**

(1977 = 100)

Year	CPI	Year	CPI
1947. . . . .	36.9	1965. . . . .	52.1
1948. . . . .	39.7	1966. . . . .	53.6
1949. . . . .	39.3	1967. . . . .	55.1
1950. . . . .	39.7	1968. . . . .	57.4
1951. . . . .	42.9	1969. . . . .	60.5
1952. . . . .	44.6	1970. . . . .	64.1
1953. . . . .	44.1	1971. . . . .	66.8
1954. . . . .	44.4	1972. . . . .	69.0
1955. . . . .	44.2	1973. . . . .	73.3
1956. . . . .	44.8	1974. . . . .	81.4
1957. . . . .	46.4	1975. . . . .	88.8
1958. . . . .	47.7	1976. . . . .	93.9
1959. . . . .	48.1	1977. . . . .	100.0
1960. . . . .	48.9	1978. . . . .	107.6
1961. . . . .	49.4	1979. . . . .	119.8
1962. . . . .	49.9	1980. . . . .	136.0
1963. . . . .	50.2	1981. . . . .	150.1
1964. . . . .	51.2		

Source: Department of Labor, Bureau of Labor Statistics.

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 either (1) direct access from the outside or through a common hall or (2) a kitchen of cooking equipment for the exclusive use of the occupants.

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. The count of households excludes group quarters.

AHS-CPS statistical match. In order to simulate property taxes for owner-occupied housing units, the March 1982 CPS simulation file was statistically matched to a file from the 1981 Annual Housing Survey (AHS). Since the AHS file contained responses to questions on annual property tax expenses the statistical match allowed the transfer of property tax amounts to CPS records when a CPS and AHS household were found to have similar characteristics. The group of variables used to match the two files were: age of householder, tenure, public or subsidized housing status, SMSA and central-city status of the household, household income, household size, number of living quarters, and the race, sex, and educational attainment of the householder. Using a very detailed combination of recodes based on the above variables, the two files were matched. If there was no AHS household with the exact combination of characteristics as a particular CPS household, a match was then attempted at a new level that did not have quite as much detail. This was repeated until a match was found for every CPS household.

Households on the AHS file that did not answer the question dealing with property tax expenses were ineligible for the match. Since monthly mortgage expenses, which were used to simulate itemization status for Federal taxpayers, were also assigned to CPS households using this match, households that did not answer the AHS questions on that subject were similarly excluded from the match.

Index of income concentration. The index of income concentration (or Gini index) is a statistical measure of income inequality ranging from 0 to 1. A measure of 1 indicates perfect inequality, i.e., one person having all the wealth and the rest having none. A measure of 0 indicates perfect equality, i.e., all persons having equal shares of the wealth. For a more detailed discussion see Current Population Reports, Series P-60, No. 123.

## Appendix C. Source and Reliability of Estimates

### SOURCE OF DATA

Data from the Annual Housing Survey, the Income Survey Development Program, and the Internal Revenue Service were combined with the Current Population Survey (CPS) data to create simulations of taxes paid, number of tax filing units, adjusted gross income, and other tax characteristics for the March 1982 CPS. See the section of the report entitled "Methodology and Procedures" for more details. In addition, unpublished data from the Social Security Administration, administrative data from the Office of Personnel Management, data from the National Income Accounts prepared by the Bureau of Economic Analysis, and Bureau of the Census Publication "State Government Tax Collections in 1981" have all been referenced. Following is a description of the sources of data from which the tax simulations were made. Except for the CPS, these descriptions are brief. Additional information about these data sources can be found in the reports referenced in the brief descriptions given below.

Annual Housing Survey. Housing data are collected by the Bureau of the Census acting as collecting agent for the Department of Housing and Urban Development. The population covered by the sample for the AHS are all housing units in the United States. A structure must meet specific criteria developed by the Bureau of the Census before it is termed a "housing unit." For a more detailed description of the sample design see Current Housing Reports, Series H-150-81, Annual Housing Survey: 1981, Part C, Financial Characteristics of the Housing Inventory.

Income Survey Development Program. The Income Survey Development Program (ISDP) was the research and development phase for the Survey of Income and Program Participation (SIPP). The ISDP was intended to examine and resolve design, operational, and technical issues for SIPP. The household sample for the 1979 ISDP was a nationwide multiple-frame sample. The majority of sample households were drawn from addresses contacted in the 1976 Survey of Income and Education. The remainder of sample households were drawn from a reserve file of

sample cases maintained by the Census Bureau. For a more detailed description of this sample design, see Current Population Reports, Series P-23, No. 118, Wage and Salary Data from the Income Survey Development Program: 1979 (Preliminary Data from Interview Period One).

Internal Revenue Service Data. Much of the Internal Revenue Service (IRS) data in this report comes from the Statistics of Income (SOI) series, in particular, Individual Income Tax Returns: 1981. This report, based on a sample drawn from all tax returns filed for income year 1981, presents information on taxpayers' income, exemptions, deductions, credits, and tax.

Current Population Survey. The CPS estimates in this report are based on data obtained in March 1982 from the Current Population Survey (CPS) of the Bureau of the Census and from supplementary questions to the CPS. The monthly CPS deals mainly with labor force data for the civilian noninstitutional population. Questions relating to labor force participation are asked about each member 14 years old and over in every sample household. In addition, supplementary questions are asked every March about money income and work experience for the previous year. In order to obtain more reliable data for the Spanish-origin population, the March CPS sample was enlarged to include all households from the previous November sample which contained at least one sample person of Spanish origin. For this report, persons in the Armed Forces living off post or with their families on post are included.

The present CPS sample was initially selected from the 1970 census files with coverage in all 50 States and the District of Columbia. The sample is continually updated to reflect new construction. The March 1982 CPS sample was located in 629 areas comprising 1,148 counties, independent cities, and minor civil divisions in the Nation. In this sample, approximately 63,000 occupied households were eligible for interview. Of this number, about 3,000 occupied units were visited but interviews were not obtained because

the occupants were not found at home after repeated calls or were unavailable for some other reason.

The estimation procedure used in the CPS involved the inflation of the weighted sample results to independent estimates of the total civilian noninstitutional population of the United States by age, race, and sex. The estimation procedure also involved a further adjustment so that the husband and wife of a household receive equal weights. These independent estimates are based on statistics from the 1980 decennial census; statistics on births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces. Simulation techniques were also used to obtain estimates of after-tax income based on CPS data. For more details on this procedure see the section of this report entitled "Methodology and Procedures."

## RELIABILITY OF ESTIMATES

Estimates based on a sample may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same questionnaire, instructions, and enumerators. There are two types of errors possible in an estimate based on a sample survey: sampling and nonsampling. The standard errors provided for this report primarily indicate the magnitude of the sampling error. They also partially measure the effect of some nonsampling errors in response and enumeration, but do not measure any systematic biases in the data. The full extent of nonsampling error is unknown. Consequently, particular care should be exercised in the interpretation of figures based on a relatively small number of cases or on small differences between estimates.

In addition, these standard errors are not entirely applicable to estimates from the CPS simulation. These standard errors were computed from CPS data alone and do not reflect any sampling or nonsampling errors present in data from other sources or any other errors due to the simulation process. There is no data available on the size of these additional error sources. Still, care must be used in interpreting estimates from the CPS simulation.

Nonsampling variability. Nonsampling error is present in both the CPS and other surveys mentioned in this report. The interaction of nonsampling errors when combining data from many surveys may result in an additional component of error. An unknown component is also introduced by the use of mathematical models. The total extent of these additional errors are unknown. Particular caution should be used in drawing conclusions based on small differences.

Nonsampling errors can be attributed to many sources, e.g., inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, inability or unwillingness on the part of the respondents to provide correct information, errors made in collection such as in recording or coding the data, errors made in processing the data, errors made in estimating values for missing data, and failure to represent all units with the sample (undercoverage).

Undercoverage in the CPS results from missed housing units and missed persons within sample households. Overall undercoverage, as compared with the level of the 1980 decennial census, is about 7 percent. It is known that CPS undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. Ratio estimation to independent age-sex-race population controls partially corrects for the bias resulting from survey undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics than interviewed persons in the same age-sex-race group. Further, the independent population controls used have not been adjusted for undercoverage in the decennial census.

In most cases, the questionnaire entries for income are based on the memory or knowledge of one person, usually the wife. The memory factor in data derived from field surveys of income probably produces underestimates because the tendency is to forget minor or irregular sources of income. Other errors of reporting are due to misrepresentation or to misunderstanding as to the scope of the income concept. See also the section entitled "Underreporting of Income."

Comparability with other data. Data obtained from the CPS and other governmental sources are not entirely comparable. This is in large part due to differences in interviewer training and experience and in differing survey procedures. This is an additional component of error not reflected in the standard error tables. Also, because data from CPS simulations used in this report were derived using statistics from other governmental agencies, the standard error tables are analogously not entirely applicable to data from the CPS simulations. Therefore, caution should be used when using the standard error tables to compare data from the CPS or CPS simulation with data from other governmental agencies.

Estimation of median incomes. Median incomes have been estimated using either Pareto

interpolation or linear interpolation. Pareto interpolation assumes a decreasing density of population within an income interval, whereas linear interpolation assumes a constant density of population within an income interval. Estimates of median income and their associated standard errors have been calculated using Pareto interpolation if the width of the income interval containing the estimate is greater than \$2,500. Otherwise, the computations have been done using linear interpolation.

Sampling variability. The standard errors given in tables C-1 through C-4 are primarily measures of sampling variability, that is, of the variation that occurred by chance because a sample rather than the entire population was surveyed. The sample estimate and its standard error enable one to construct confidence intervals, ranges that would include the average result of all possible samples with a known probability. For example, if all possible samples were selected, each of these being surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then:

1. Approximately 68 percent of the intervals from one standard error below the estimate to one standard error above the estimate would include the average result of all possible samples.
2. Approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.
3. Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average result of all possible samples.

The average estimate derived from all possible samples is or is not contained in any particular computed interval. However, for a particular sample, one can say with a specified confidence that the average estimate derived from all possible samples is included in the confidence interval.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common types of hypotheses are 1) the population parameters are identical or 2) they are different. An example of this would be comparing the mean annual income of men versus the mean annual income of women. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding

that the parameters are different when, in fact, they are identical. All statements of comparison in the text have passed a hypothesis test at the 0.10 level of significance or better, and most have passed a hypothesis test at the 0.05 level of significance or better. This means that, for most differences cited in the text, the estimated difference between parameters is greater than twice the standard error of the difference. For the other differences mentioned, the estimated difference between parameters is between 1.6 and 2.0 times the standard error of the difference. When this is the case, the statement of comparison will be qualified in some way; e.g., by use of the phrase "some evidence." Again, note that the standard errors used here are rough approximations, particularly on estimates involving sources of data other than the CPS. These standard errors do not account for sampling or nonsampling errors introduced by using the mathematical model.

Note when using small estimates. Summary measures, such as means, medians, and percent distributions, are shown when the base is 75,000 or greater. Because of the large standard errors involved, there is little chance that summary measures would reveal useful information when computed on a smaller base. Estimated numbers are shown, however, even though the relative standard errors of these numbers are larger than those for the corresponding percentages. These smaller estimates are provided primarily to permit such combinations of the categories as serve each user's needs.

Standard errors for data based on surveys other than CPS. To compute standard errors of data obtained from the 1981 SOI reports, see the report Internal Revenue Service Statistics of Income: 1981, Individual Income Tax Returns, Washington, D.C., 1983. To compute standard errors of data obtained from the 1981 Annual Housing Survey, see appendix B of the report, Series H-150-81, Annual Housing Survey: 1981, Part C, Financial Characteristics of the Housing Inventory.

CPS standard error tables and their use. In order to derive standard errors that would be applicable to a large number of estimates and could be prepared at a moderate cost, a number of approximations were required. Therefore, instead of providing an individual standard error for each estimate, generalized sets of standard errors are provided for various types of characteristics. As a result the sets of standard errors provided give an indication of the order of magnitude of the standard error of an estimate rather than the precise standard error.

**Table C-1. Standard Errors of Estimated Numbers of Households, Families, Unrelated Individuals, and Persons, for 1980 and 1981 CPS and CPS Simulations**

Total, White, or Spanish Origin

(Numbers in thousands)

Size of estimate	Standard error <sup>1</sup>	Size of estimate	Standard error <sup>1</sup>
75.....	11	7,500.....	111
100.....	13	10,000.....	127
250.....	21	15,000.....	154
500.....	29	25,000.....	192
1,000.....	41	50,000.....	247
2,000.....	58	100,000.....	269
3,000.....	71	125,000.....	243
5,000.....	91	160,000.....	139

<sup>1</sup>These values must be multiplied by the appropriate factor in table C-5 to obtain the correct standard error.

**Table C-2. Standard Errors of Estimated Percentages of Households, Families, Unrelated Individuals, and Persons, for 1980 and 1981 CPS and CPS Simulations**

Total, White, or Spanish Origin

Base of estimated percentage (thousands)	Estimated percentage <sup>1</sup>				
	2 or 98	5 or 95	10 or 90	25 or 75	50
75.....	2.1	3.3	4.5	6.6	7.6
100.....	1.8	2.9	3.9	5.7	6.6
250.....	1.2	1.8	2.5	3.6	4.1
500.....	0.8	1.3	1.8	2.5	2.9
1,000.....	0.6	0.9	1.2	1.8	2.1
2,000.....	0.4	0.6	0.9	1.3	1.5
3,000.....	0.3	0.5	0.7	1.0	1.2
5,000.....	0.3	0.4	0.6	0.8	0.9
7,500.....	0.2	0.3	0.5	0.7	0.8
10,000.....	0.2	0.3	0.4	0.6	0.7
15,000.....	0.15	0.2	0.3	0.5	0.5
25,000.....	0.12	0.2	0.2	0.4	0.4
50,000.....	0.08	0.13	0.2	0.3	0.3
100,000.....	0.06	0.09	0.12	0.2	0.2
125,000.....	0.05	0.08	0.11	0.2	0.2
160,000.....	0.05	0.07	0.10	0.14	0.2

<sup>1</sup>These values must be multiplied by the appropriate factor in table C-5 to obtain the correct standard error.

**Table C-3. Standard Errors of Estimated Numbers of Households, Families, Unrelated Individuals, and Persons, for 1980 and 1981 CPS and CPS Simulations**

**Black and/or Other Races**

(Numbers in thousands)

Size of estimate	Standard error <sup>1</sup>	Size of estimate	Standard error <sup>1</sup>
75.....	12	3,000.....	69
100.....	14	5,000.....	85
250.....	22	7,500.....	95
500.....	30	10,000.....	99
1,000.....	42	15,000.....	90
2,000.....	58	20,000.....	44

<sup>1</sup>These values must be multiplied by the appropriate factor in table C-5 to obtain the correct standard error.

**Table C-4. Standard Errors of Estimated Percentages of Households, Families, Unrelated Individuals, and Persons, for 1980 and 1981 CPS and CPS Simulations**

**Black and/or Other Races**

Base of estimated percentage (thousands)	Estimated percentage <sup>1</sup>				
	2 or 98	5 or 95	10 or 90	25 or 75	50
75.....	2.2	3.4	4.7	6.8	7.9
100.....	1.9	3.0	4.1	5.9	6.8
250.....	1.2	1.9	2.6	3.8	4.3
500.....	0.9	1.3	1.8	2.7	3.1
1,000.....	0.6	0.9	1.3	1.9	2.2
2,000.....	0.4	0.7	0.9	1.3	1.5
3,000.....	0.4	0.5	0.8	1.1	1.3
5,000.....	0.3	0.4	0.6	0.8	1.0
10,000.....	0.2	0.3	0.4	0.6	0.7
15,000.....	0.2	0.2	0.3	0.5	0.6
20,000.....	0.14	0.2	0.3	0.4	0.5

<sup>1</sup>These values must be multiplied by the appropriate factor in table C-5 to obtain the correct standard error.

The figures presented in tables C-1 through C-4 are approximations to standard errors of various estimates for households, families, unrelated individuals, and persons in the United States. Estimated standard errors for specific characteristics cannot be obtained from tables C-1 through C-4 without the use of the factors in table C-5. The factors in table C-5 must be applied to the genera-

lized standard errors in order to adjust for the combined effect of sample design and estimating procedure on the value of the characteristic. Standard errors for intermediate values not shown in the generalized tables of standard errors may be approximated by linear interpolation. Standard errors of estimated means and medians are provided in the detailed tables.

**Table C-5. "a" and "b" Parameters and "f" Factors for Calculating Approximate Standard Errors of Estimated Numbers and Percentages of Households, Families, Unrelated Individuals, and Persons, for 1980 and 1981 CPS and CPS Simulations**

Type of characteristic <sup>1</sup>	Parameter		f factor
	a	b	
<b>INCOME</b>			
Number of households, families, or unrelated individuals:			
Total or White.....	-0.000010	1,721	1.00
Black and/or other races.....	-0.000089	1,876	1.00
Spanish origin.....	-0.000014	2,420	1.19
Number of persons:			
Total or White.....	-0.000009	1,885	1.05
Black and/or other races.....	-0.000077	2,155	1.07
Spanish origin.....	-0.000020	3,000	1.32
<b>POVERTY</b>			
Number of households, families, or unrelated individuals:			
Total or White.....	0.000076	1,876	1.04 <sup>2</sup>
Black and/or other races.....	0.000076	1,876	1.00 <sup>2</sup>
Spanish origin.....	-0.000014	2,420	1.19
Number of persons:			
Total.....	-0.000031	7,946	2.15
<b>NONINCOME</b>			
Number of households, families, or unrelated individuals:			
Total or White.....	-0.000010	1,389	0.90
Black and/or other races.....	-0.000087	1,255	0.82 <sup>2</sup>
Spanish origin.....	-0.000020	1,422	0.91
Number of persons:			
Total or White.....	-0.000017	3,500	1.43
Black and/or other races.....	-0.000210	5,020	1.64
Spanish origin.....	-0.000026	4,432	1.60
Number of persons in households or families:			
All households or family members:			
Total or White.....	-0.000020	4,253	1.57
Black and/or other races.....	-0.000308	7,402	1.99
Spanish origin.....	-0.000441	8,917	2.28

<sup>1</sup>For nonmetropolitan areas, multiply the "a" and "b" parameters by 1.5.

<sup>2</sup>The "f" factor for Black households, families, or unrelated individuals for these characteristics is to be used for calculating standard errors of percentages only. For standard errors of estimated numbers, the appropriate "a" and "b" parameters and formula (2) must be used.

Two parameters (denoted "a" and "b") are used to calculate standard errors for each type of characteristic; they are also presented in table C-5. These parameters were

used to calculate the standard errors in tables C-1 through C-4 and to calculate the factors in table C-5. They also may be used to directly calculate the standard errors for

estimated numbers and percentages. Methods for direct computation are given in the following sections.

Standard errors of estimated numbers. The approximate standard error  $\sigma_x$ , of an estimated number can be obtained in two ways. It may be obtained by use of the formula

$$\sigma_x = f\sigma \quad (1)$$

where  $f$  is the appropriate factor from table C-5, and  $\sigma$  is the standard error on the estimate obtained by interpolation from tables C-1 or C-3. Alternatively, standard errors may be approximated by using formula (2), from which the standard errors were calculated in tables C-1 and C-3. Use of this formula will provide more accurate results than the use of formula (1).

$$\sigma_x = ax^2 + bx \quad (2)$$

Here  $x$  is the size of the estimate and  $a$  and  $b$  are the parameters in table C-5 associated with the particular type of characteristic.

Standard errors of estimated percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which this percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the factor or parameters from table C-5 indicated by the numerator. The approximate standard error,  $\sigma_{(x,p)}$ , of an estimated percentage can be obtained by use of the formula

$$\sigma_{(x,p)} = f\sigma \quad (3)$$

In this formula,  $f$  is the appropriate factor from table C-5 and  $\sigma$  is the standard error on the estimate from table C-2 or C-4. Alternatively, standard errors may be approximated by using formula (4), from which the standard errors in tables C-2 and C-4 were calculated. Use of this formula will provide more accurate results than use of formula (3).

$$\sigma_{(x,p)} = \sqrt{\frac{b}{x} \cdot p(100-p)} \quad (4)$$

Here  $x$  is the size of the subclass of persons or families and unrelated individuals which is the base of the percentage,  $p$  is the percent-

age ( $0 < p < 100$ ), and  $b$  is the parameter in table C-5 associated with the particular type of characteristic in the numerator of the percentage.

Illustrations of the use of standard error tables. Table B of this report shows that there were 6,308,000 households in the United States with a before-tax income in the range of \$2,500 to \$4,999 in 1981. Table C-5 indicates that the appropriate "a" and "b" parameters to use in calculating a standard error for this estimate are  $a = -0.000010$  and  $b = 1,721$ . Using formula (2), the approximate standard error is

$$\sqrt{(-0.000010)(6,308,000)^2 + 1,721(6,308,000)} \approx 102,000^1$$

The 68-percent confidence interval as shown by the data is from 6,206,000 to 6,410,000. The 95-percent confidence interval is from 6,104,000 to 6,512,000 (using twice the standard error). Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 95 percent of all possible samples.

Table B also shows that 4.3 percent of the 83,527,000 households in the United States had before-tax incomes less than \$30,000 but greater than \$27,500 in 1981. Using formula (4) and the appropriate "b" parameter of 1,721 from table C-5, the standard error of 4.3 percent is given by

$$\sqrt{\frac{1,721}{83,527,000} \cdot 4.3(100.0-4.3)} = 0.092$$

Thus, rounded to one decimal place, the 68-percent confidence interval on the estimated percentage is from 4.2 to 4.4, and the 95-percent confidence interval is from 4.1 to 4.5.

<sup>1</sup>Using formula (1) with appropriate  $f = 1.0$  and  $\sigma = 101,000$  (from table C-1), the standard error of 6,308,000 is  $(1.0)(101,000) = 101,000$ .

<sup>2</sup>Using formula (3) with appropriate  $f = 1.0$  and  $\sigma = 0.09$  (from table C-2), the standard error of 4.3 percent is  $(1.0)(0.09) = 0.09$ .

Standard error of a difference. For a difference between two sample estimates, the standard error is approximately equal to

$$\sigma_{(x-y)} = \sqrt{\sigma_x^2 + \sigma_y^2 - 2\rho\sigma_x\sigma_y} \quad (5)$$

where  $\sigma_x$  and  $\sigma_y$  are the standard errors of the estimates  $x$  and  $y$  and  $\rho$  represents the correlation between the two estimates. The estimates can be of numbers, percents, ratios, etc. For differences between before- and after-tax poverty estimates assume a value of 0.9 for  $\rho$ . For differences between before- and after-tax income estimates, assume a value of 0.7 for  $\rho$ . For differences between 1980 and 1981 estimates of the same income assume a value of 0.35 for  $\rho$ . For all other differences,  $\rho$  should be assumed zero.

Illustration of the computation of the standard error of a difference. Table 1 of this report shows that the median before-tax 1981 income of owner-occupied households was \$22,714 and the median before-tax 1981 income of renter-occupied households was \$13,087. The published estimates of the standard errors of these medians are \$129 and \$118, respectively. Therefore, the standard error of the estimated difference of \$9,627 is

$$\sqrt{(129)^2 + (118)^2} = 175$$

This means that the 68-percent confidence interval on the difference of \$9,627 as shown by these data is from \$9,452 to \$9,802. The 95-percent confidence interval on the difference of \$9,627 is from \$9,277 to \$9,977. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 95 percent of all possible samples. Since this interval does not contain zero, we can conclude with 95-percent confidence that the 1981 median before-tax income for owner-occupied households was higher than the 1981 median before-tax income for renter-occupied households.

Standard error of a ratio. Certain mean values for persons in families or households shown in the tables were calculated as the ratio of two numbers. For example, the mean number of persons per family or household is calculated as

$$\frac{x}{y} = \frac{\text{total number of persons in families or households}}{\text{total number of families or households}}$$

Ratios of before- to after-tax estimates are also discussed in this report. For exam-

ple, the ratio of mean household income before and after taxes is calculated as

$$\frac{x}{y} = \frac{\text{mean household income before taxes}}{\text{mean household income after taxes}}$$

Standard errors for these ratios may be approximated as shown below. There are three cases to consider. In the first two cases, the denominator  $y$  represents a count of families or households of a certain class, and the numerator  $x$  represents a count of persons with the characteristic under consideration who are members of these families or households. In the third case, the numerator  $x$  and denominator  $y$  represent before- and after-tax estimates.

Case 1: There is at least one person having the characteristic in every family or household of the class: for example, the mean number of persons per family or the mean number of persons per family with a male householder. For ratios of this kind, the standard errors are approximated by the following formula:

$$\sigma_{\frac{x}{y}} = \sqrt{\left(\frac{x}{y}\right)^2 \left[\left(\frac{\sigma_y}{y}\right)^2 + \left(\frac{\sigma_x}{x}\right)^2 - 2\rho\left(\frac{\sigma_x}{x}\right)\left(\frac{\sigma_y}{y}\right)\right]} \quad (6)$$

The standard error of the estimated number of families or households,  $\sigma_y$ , and the standard error of the estimated number of persons with the characteristics in those families or households,  $\sigma_x$ , may be calculated by the methods described above. In formula (6),  $\rho$  represents the correlation coefficient between the numerator and the denominator of the estimate. In the above examples, and for other ratios of this kind use 0.7 as an estimate of  $\rho$ .

Case 2: The number of persons having the characteristic in a given family or household may be 0, 1, 2, 3, or more: for example, the mean number of persons under 18 years of age per household. For ratios of this kind the standard error is approximated by formula (6), but  $\rho$  is assumed to be zero. If  $\rho$  is actually positive (negative), then this procedure will provide an overestimate (underestimate) of the standard error of the ratio.

Case 3: The numerator and denominator represent before- and after-tax estimates. For example, the numerator

may represent the number of families or households in a certain income category before taxes, and the denominator may represent the number of families or households in the same category after taxes. For ratios of this kind  $\sigma_x$  and  $\sigma_y$  represent the standard errors of before- and after-tax estimates, respectively. For ratios of this type,  $\rho$  is assumed to be 0.9 for before- and after-tax poverty estimates, and 0.7 for before- and after-tax income estimates.

## STANDARD ERRORS OF ESTIMATED MEANS AND MEDIANS

Estimated standard errors are provided for the means and medians of the published income distributions, and do not need to be calculated by the user. However, because of the approximations used in developing the formula used to estimate the standard error of the mean, the standard error reported for this statistic will generally be an underestimate. Since some users may wish to combine two or more income distributions and compute means and medians for the combined distribution, the following sections are provided to enable the user to calculate standard errors for these statistics.

Estimating the standard error of the mean. The standard error of a mean can be approximated by formula (7). Because of the approximations used in developing formula (7), an estimate of the standard error of the mean obtained from that formula will generally underestimate the true standard error. The formula used to estimate the standard error of a mean is

$$s_{\bar{x}} = \sqrt{\frac{b}{y} s^2} \quad (7)$$

where  $y$  is the size of the base and  $b$  is a parameter which depends on the sample size, the sample design, the estimation procedure, and the type of characteristic. The  $b$  values are given in table C-5. The variance  $s^2$ , is given by formula (8):

$$s^2 = \sum_{i=1}^c p_i \bar{x}_i^2 - \bar{x}^2 \quad (8)$$

where  $\bar{x}$  is the mean of the distribution, defined by  $\sum_{i=1}^c p_i \bar{x}_i$ .

$c$  is the number of groups;  $i$  indicates a specific group, taking on values 1 through  $c$ .

$p_i$  is the estimated proportion of households, families, or persons whose values, for the characteristic ( $x$ -values) being considered, fall in group  $i$ .

$\bar{x}_i = (Z_{i-1} + Z_i)/2$  where  $Z_{i-1}$  and  $Z_i$  are the lower and upper interval boundaries, respectively, for group  $i$ .

$\bar{x}_i$  is assumed to be the most representative value for the characteristic for households, families, or persons in group  $i$ . Group  $c$  is open-ended, i.e., no upper interval boundary exists. For this group an approximate average value is  $\bar{x}_c = \frac{3}{2} Z_{c-1}$ .

When two or more distributions are combined, the mean of the combined distribution is

$$\bar{x} = \frac{1}{y} \sum_j \bar{x}_j y_j$$

where  $\bar{x}_j$  is the mean of the  $j$ th distribution,  $y_j$  is the base of the  $j$ th distribution, and  $y = \sum_j y_j$ . This mean must be computed by the user.

Confidence interval and standard error of a median. The sampling variability of an estimated median depends upon the form of the distribution as well as the size of its base. An approximate method for measuring the reliability of an estimated median is to determine a confidence interval about it. (See the section on sampling variability for a general discussion of confidence intervals.) The following procedure may be used to estimate the 68-percent confidence limits and hence the standard error of a median based on sample data.

1. Determine, using the standard error tables and factors or formula (4), the standard error of the estimate of 50 percent from the distribution;

2. Add to and subtract from 50 percent the standard error determined in step (1);
3. Using the distribution of the characteristic, calculate the values from the distribution corresponding to the two points established in step (2). These values will be the limits for the 68-percent confidence interval;
4. Divide the difference between the two points determined in step (3) by two to obtain the standard error of the median.

For calculation of the confidence interval in step (3) use Pareto interpolation for any point in an income interval greater than \$2,500 in width, and linear interpolation otherwise. A 95-percent confidence interval may be determined by finding the values corresponding to 50 percent plus and minus twice the standard error determined in step (1).

The formulae used to implement step (3) for Pareto or linear interpolation are:

Pareto:

$$x_{pN} = A_1 \exp \left[ \ln \left( \frac{pN}{N_1} \right) \ln \left( \frac{A_2}{A_1} \right) / \ln \left( \frac{N_2}{N_1} \right) \right] \quad (9)$$

Linear:

$$x_{pN} = \frac{N_1 - pN}{N_1 - N_2} (A_2 - A_1) + A_1 \quad (10)$$

where  $N$  = total number of households, families, or persons in the distribution.

$x_{pN}$  = estimated income for which the number  $pN$  ( $0 < p < 1$ ) of households, families, or persons in the distribution have larger incomes. For the purposes of calculating the confidence interval,  $p$  takes on the two values in step (2). Note that the median can be approximated by using  $p = 0.50$  in the formulae.

$A_1$  and  $A_2$  = the estimated incomes which are the lower and upper bounds, respectively, on the interval in which  $x_{pN}$  falls.

$N_1$  and  $N_2$  = the estimated number of households, families, or persons with incomes greater than  $A_1$  and  $A_2$ , respectively.

$\exp$  = refers to the exponential function.

$\ln$  = refers to the natural logarithm function.

It should be noted that a mathematically equivalent result is obtained by using common logarithms (base 10) and antilogarithms.

Since the new, more detailed income intervals used in this report have \$2,500 increments up to \$40,000 for households and families and up to \$20,000 for persons, and since Pareto interpolation will only be used when a median income falls in an interval of width larger than \$2,500, this type of interpolation is needed very infrequently (i.e., only in cases where the estimated median income exceeds \$40,000 for households and families and \$20,000 for persons). For this reason an illustration of the use of Pareto interpolation in computing a confidence interval for a median is not given here.

Illustration of the computation of a confidence interval and the standard error for a median computed using linear interpolation.

Table 1 of this report shows that the median before-tax income in 1981 for owner-occupied households in the United States is estimated to be \$22,714. Table 1 also shows that the base of the distribution from which this median was determined is 56,317,000.

1. Using formula (4), the standard error of 50 percent on a base of 56,317,000 is about 0.3 percentage points.
2. To obtain a 68-percent confidence interval on the estimated median, add to and subtract from 50 percent the standard error found in step 1. This yields percent limits of 49.7 and 50.3.
3. From table 1, the 1981 before-tax income of 28,417,000 (50.4 percent) of all owner-occupied households was at least \$22,500, and the 1981 before-tax income of 25,399,000 (45.0 percent) of all owner-occupied households was at least \$25,000.

Thus, the entire 68-percent confidence interval falls in the income interval \$22,500 to \$24,999. Therefore, the median before-tax income and the upper and lower limits on the confidence interval are to be calculated using linear interpolation. Using formula (10), the lower limit on the estimate is found to be about

$$\frac{(28,417,000) - (.503)(56,317,000)}{28,417,000 - 25,399,000} (\$24,999 - \$22,500) + \$22,500 = \$22,574$$

Similarly, the upper limit is found by linear interpolation to be about

$$\frac{28,417,000 - (.497)(56,317,000)}{28,417,000 - 25,399,000} (\$24,999 - \$22,500) + \$22,500 = \$22,854$$

Thus, the 68-percent confidence interval on the estimated median is from \$22,574 to \$22,854.

4. The standard error of the median is, therefore,  $(\$22,854 - \$22,574)/2$ , i.e., \$140. (NOTE: Published standard errors are calculated by the same method as above. However, a different standard error may be obtained because of rounding-off errors; e.g., for the above illustration, table 1 gives a standard error of \$129.)

#### STANDARD ERROR OF PER CAPITA INCOME

Certain mean values in this report represent the per capita income for households of a certain class. The mean per capita income is approximately equal to:

$$x_c = \frac{h_c m_c}{p_c}$$

where  $h_c$  = number of households in class c.

$m_c$  = mean income for households in class c.

$p_c$  = number of persons in households in class c.

$x_c$  = mean per capita income of persons in households in class c.

Standard errors for these means may be approximated using the following formula:

$$\sigma(x_c) = \sqrt{\left(\frac{h_c m_c}{p_c}\right)^2 \left[ \left(\frac{\sigma_{m_c}}{m_c}\right)^2 + \left(\frac{\sigma_{p_c}}{p_c}\right)^2 + \left(\frac{\sigma_{h_c}}{h_c}\right)^2 - 2\rho \left(\frac{\sigma_{p_c}}{p_c}\right) \left(\frac{\sigma_{h_c}}{h_c}\right) \right]}$$

In this formula,  $\rho$  represents the correlation between  $p_c$  and  $h_c$ . There are two cases to consider, depending on the nature of class c.

Case 1: Class c represents households containing a fixed number of persons. For example,  $h_c$  could be the number of 3 person households. In this case, there is an exact correlation between the number of persons in household and the number of households. Therefore,  $\rho = 1$  for households of this type.

Case 2: Class c represents households of other demographic types, for example, households in distinct regions, households in which the householder is of a certain age group, and owner-occupied and renter-occupied households. In these examples and other classes in which there is not a perfect correlation between the number of persons in the household and the number of households, use 0.7 as an estimate of  $\rho$ .

## Appendix D. Underreporting of Income

This appendix discusses some important aspects of underreporting, its measurement, and presents some estimates of underreporting for the base year 1979. The general survey phenomenon that is commonly termed underreporting actually refers to the tendency of household surveys to underestimate the number of income recipients and/or the amount of income received. There are three main causes for underreporting: failure to report receipt of the income type, underreporting of the amount received, and misclassification of the income type received.

Accurately measuring the extent of underreporting of income is difficult for many of the income types. There are two main components of measuring underreporting: the number of income or recipients and the total amount of income received. Measuring the survey undercount of recipients for the March CPS is extremely difficult because independent estimates (benchmarks or controls) for the CPS noninstitutional, "ever-received during the year" recipient concept are difficult to vali-

date. In addition, some of the administrative sources required for the derivation of independent estimates have significant errors themselves.

The derivation of accurate underreporting estimates for amounts of income is easier but still not without similar problems. In general, better administrative data are available on the annual amount of benefits received, or income earned, than recipients. Some of the more important problems associated with development of the independent controls for amounts are adjusting independent estimates to the CPS noninstitutional population, significant differences between alternate sources of independent estimates, especially for self-employment income, interest, dividends, and rents, and periodic revisions to the sources of independent estimates that delay availability of data and significantly alter estimates of underreporting. Shown in table D-1 are estimates of underreporting for amounts of money income for 1979.

**Table D-1. Comparisons of CPS Aggregate Money Income in 1979 With Independently Derived Estimates, by Income Type**

(Billions of dollars)

Source of income	Independent estimate	CPS estimate	CPS as a percent of independent
Total.....	1,740.4	1,549.4	89.1
Wages and salaries.....	1,215.3	1,183.7	97.4
Self-employment.....	130.1	109.6	84.2
Social Security <sup>1</sup> .....	98.7	89.7	90.9
Supplemental Security Income.....	7.2	5.0	69.4
Aid to Families with Dependent Children <sup>2</sup> .....	12.3	9.5	77.2
Interest, dividends, and rental income.....	186.2	84.0	45.0
Veterans payments.....	12.1	9.1	75.2
Unemployment compensation.....	10.3	7.1	68.9
Worker's compensation.....	9.7	4.1	42.3
Private, government, and military pensions.....	58.5	47.7	81.5

<sup>1</sup>Includes Railroad Retirement Benefits.

<sup>2</sup>Includes general assistance.

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