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Who Can Afford to Buy a House?

SIIPP

Survey of Income and Program Participation



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Who Can Afford to Buy a House?

INTRODUCTION

This report presents the results of research recently conducted by the Bureau of the Census. Using the Survey of Income and Program Participation (SIPP), it presents a microlevel analysis of the issue of homeownership affordability by "qualifying" individual families and unrelated individuals for the purchase of the median-priced home, a more "modestly" priced home, and a new single-family home in the region where they live.

By utilizing information on income, assets, and debts, the report shows whether the family or individual could qualify using both conventional and FHA mortgage guidelines for a 30-year mortgage. The interest rate and points used in the calculations reflect an average for actual mortgages placed during the spring of 1988, when the survey data were collected. The underwriting guidelines for conventional and FHA mortgages reflect those in use during the fall of 1990, but do not differ in substance from those in use in 1988.

For conventional mortgages, families and individuals were qualified using a minimum down payment of 5 percent, but were allowed to put down more if their assets allowed. The purpose of a 5 percent down payment was to qualify as many families and individuals as possible. For FHA-insured mortgages, families and individuals were required to pay 3 percent of the first \$25,000 of total acquisition costs, and 5 percent of the amount above \$25,000. Total acquisition costs are the purchase price of the house plus administrative closing costs, and the loan origination fee. It is well known that assistance in purchasing a house is sometimes provided by relatives or an employer; however, no data were available for quantifying such a possibility and it is not reflected in this report.

This report includes an analysis of families and unrelated individuals that could not afford a house purchase by tenure, family status, race and Hispanic origin, age of householder, and qualifying income. It also includes a discussion of the factors preventing the purchase of a home, and the effect of changes in interest rates on the ability to buy. Finally, this report estimates the maximum-priced home a family or unrelated individual could afford and the difference between what it could afford and the median-priced home in the region. For further information on the methodology used to qualify families and unrelated individuals and to calculate the maximum-priced home that could be afforded, see appendix C.

HIGHLIGHTS

- In the spring of 1988, 57 percent (± 0.5) of all families and unrelated individuals could not afford to buy the median-priced home in the region where they lived. A house purchase was least affordable for families with a female householder with children, and most affordable for married-couple families with no children. Over one-third (± 0.6) of current owners and 91 percent (± 0.5) of current renters could not afford the median-priced house.
- About three-fourths (± 1.3) of Black families and Hispanic origin families (± 2.0) could not afford the median-priced home, compared with 43 percent (± 0.7) of White families and 46 percent (± 0.7) of non-Hispanic families. Fifty-five percent (± 2.1) of Black owner families and 51 percent (± 3.2) of Hispanic owner families could not afford to buy, compared with about 30 percent (± 0.7) of White and non-Hispanic owner families. Renter families, regardless of race or Hispanic origin, had difficulty buying, with all groups at or above 88 percent (± 0.6 to ± 2.3) failing to qualify.
- The ability to afford the median-priced home increased with age. About 94 percent (± 1.3) of families with householders under 25 were unable to qualify, but only 27 percent (± 1.5) of families with householders 55 to 64 were unable to buy a home.
- Most current owners could not qualify for the median-priced house for only one reason, while most current renters were unable to qualify for a combination of reasons. Forty-four percent (± 1.3) of owner families were unable to qualify for the median-priced home because they could not afford the down payment, 10 percent (± 0.8) had a debt level that was too high, and 8 percent (± 0.7) could not afford the monthly payments. Thirty-eight percent (± 1.3) could not qualify for a combination of these reasons. For renter families, 9 percent (± 0.7) could not afford the monthly payments, 6 percent (± 0.6) could not afford the down payment, and another 6 percent (± 0.6) had a debt level that was too high. Eighty percent of renter families (± 1.0) were ineligible for a combination of these reasons.
- The median maximum-priced house that could be afforded by married-couple owners was \$126,400 (\pm \$10,700), while it was less than \$20,000 for married-couple renters.

Approximately 91 percent of all current renters in the United States could not afford to purchase the median-priced home in their region. There was no difference between current-renter families and unrelated individuals in their ability to afford a house purchase. Among renter families, 80 percent of married-couple families without children under 18 could not afford the house purchase, compared with 97 percent for female householders with or without children under 18 (table 1 and figure 1).

Region. Among the four census regions, the West had the highest percentage of families and unrelated individuals who could not afford to purchase the median-priced house (63 percent), followed by the Northeast (59 percent), the South (56 percent), and the Midwest (51 percent). The value of the median-priced house differed significantly by region, with the Northeast and West having higher prices than the Midwest and South. For further explanation, see appendix C.

The percentage of owners who could not qualify for the median-priced home in their region was lowest in the Midwest, while the West was higher than the Northeast. For renters, the percentage not qualifying for the median house purchase was high in all regions with the Northeast and West being highest and the Midwest and South the lowest (table 1).

RACE AND HISPANIC ORIGIN

Affordability status by race and Hispanic origin shows the ability of each group to purchase the median-priced home in their region. About three-fourths of Black families could not afford the median-priced home in their region, compared with 43 percent of White families. Similarly, about three-quarters of Hispanic-origin families could not afford the median-priced home, compared with 46 percent of non-Hispanic families (table 2).

Among current owners, only about 30 percent of White families and non-Hispanic families could not afford the median-priced house, while more than half of Black families and about half of Hispanic families could not afford a house (the percentages for Black and Hispanic-origin families were not statistically different). Current-renter families, regardless of race and Hispanic origin, had a difficult time affording the median-priced home in their region, with all groups at or above 88 percent unable to qualify (table 2).

For unrelated individual owners, about half of White and non-Hispanic individuals could not qualify for the median-priced house, with Blacks and individuals of Hispanic origin showing no difference in ability to qualify, at about 70 percent. Unrelated individual renters, regardless of race, had a difficult time affording the median-priced home in their region with all groups at or above 90 percent failing to qualify (table 2).

AGE OF HOUSEHOLDER

Age of householder is a strong correlate of affordability status for families and unrelated individuals. Generally, we expect the ability to afford the median-priced home to increase as age increases. This can be seen for families, with 94 percent of householders under 25 years of age, but only 27 percent of householders 55 to 64 years of age unable to afford the median-priced home in their region. Almost half of the families with householders aged 35 to 44 could not afford the median home, but 71 percent of families with householders aged 25 to 34 could not afford to buy (table 3).

Among married-couple families, the percentage not qualifying for a median-priced home ranged from 22 percent for householders 55 to 64 years old to 90 percent for householders under 25 years. About 60 percent of unrelated individuals aged 55 to 64 could not qualify for a home purchase, compared with 98 percent for individuals under 25 years of age (table 3).

Tenure. Current-owner families with householders 45 to 64 were most able to purchase the median-priced house, while householders under 25 were least able to purchase a house. For current renters, 98 percent of families with householders under 25 could not afford the median-priced home, compared with about 81 percent of families with householders over age 55. For unrelated individual renters, about 98 percent of householders under 25 could not qualify for a home purchase, compared with about 81 percent of householders aged 45 to 54 who could not qualify (table 3).

QUALIFYING INCOME

The ability to afford a house is generally greater the higher the family income that can be used to qualify for a mortgage loan (for an explanation of the types of income that can be used to qualify, see appendix C). However, equally important as income in a house purchase is the availability of cash, or assets that can be converted to cash. Thus, it is not always the case that a higher qualifying income group will have a greater ability to afford a home purchase. Some families and individuals with high qualifying income levels may not be able to afford the median-priced house because they do not have the cash needed for the down payment and closing costs, while other families and individuals with low income but a large amount of cash may qualify.

For all families, the percentage not qualifying for the purchase of a home ranged from 92 percent for families with no qualifying income or a loss to 9 percent for families earning \$60,000 or more. The percentage of unrelated individuals unable to qualify for a home purchase varied between 95 percent for householders with no qualifying income or a loss to about 30 percent for individuals earning \$45,000 or more. (Families and unrelated individuals with no income or a loss can still qualify to buy a house if they have sufficient assets to make a mortgage unnecessary)(table 4 and figure 2).

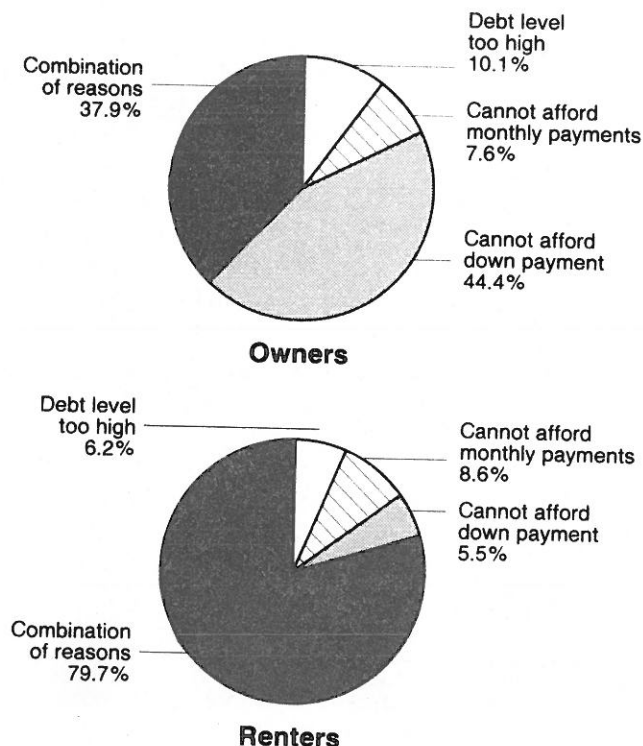
percent of current-owner families to purchase the house, though not all would have the income to cover the higher mortgage payments that might be required (table 5 and figure 3).

Owner and renter unrelated individuals also demonstrated wide differences in the reasons they could not afford to purchase the median-priced home in their region. Among current owners, 40 percent had multiple reasons for not qualifying, while 84 percent of current renters had multiple reasons that disqualified them. For those who could not qualify because of only one criteria, about 3 percent of both owner and renter unrelated individuals failed because their debt levels were too high, about 3 percent of both groups could not afford the monthly payments, and 55 percent of current owners, compared with 11 percent of current renters could not afford the down payment.

Lowering the required down payment for unrelated individuals might allow only an additional 11 percent of current renters to qualify for the median-priced house in their region, while it might enable up to an additional 55 percent of current owners to qualify for a home (table 5).

Figure 3.
Factors Preventing Purchase of Median-Priced Home for Families, by Tenure: 1988

(Using conventional, fixed-rate, 30-year financing)



MAXIMUM-PRICED HOME

The maximum-priced home that can be afforded is heavily influenced by the amount of cash held by families and unrelated individuals. If a family or individual has no cash, they cannot make the down payment or pay closing costs and, therefore, cannot afford to purchase any house. This analysis does not take into consideration any financial assistance in paying the down payment or closing costs that may be provided by a relative or an employer.

About one-fourth of all married-couple families could not afford a house or could only afford a house priced below \$20,000, compared with 22 percent that could afford a \$200,000 home. Half of unrelated individuals could not afford a house or could only afford a house priced below \$20,000, compared with only 6 percent that could afford a house priced \$200,000 or more (table 6).

Tenure. Approximately 62 percent of owner married-couple families could afford a house priced over \$100,000, while 27 percent could afford a house priced \$200,000 or more. About one-third of owner unrelated individuals could afford a house priced over \$100,000, while about 11 percent could afford a house priced \$200,000 or more. About 11 percent of owner married-couple families and 20 percent of owner unrelated individuals either could not afford any house or could only afford a house priced below \$20,000. The median maximum-priced house that owner married-couple families could afford was \$126,400, and for owner unrelated individuals it was \$66,500 (table 6).

Renters were much more limited in the housing they could afford to purchase. About two-thirds of married-couple renters and about three-fourths of unrelated individual renters either could not afford any house or could only afford a house priced below \$20,000. Only about 10 percent of married-couple renters and 5 percent of unrelated individual renters could afford a house priced over \$100,000. The median maximum-priced home was under \$20,000 for all renter family types and unrelated individuals (table 6).

Race and Hispanic origin. The maximum affordable house, when analyzed by race and Hispanic origin, shows that among married-couple families, over 20 percent of White and non-Hispanic couples could not afford any house or could only afford a house priced less than \$20,000, while about 43 percent of Black and Hispanic married-couple families could not afford any house or only one priced below \$20,000. About 51 percent of both White and non-Hispanic married-couple families could afford a house priced over \$100,000, while one-fourth of Black and Hispanic married-couple families could afford a similarly priced house (table 7).

region), and the maximum-priced house a family or individual could afford (limited to those families and individuals who could not afford the median-priced house). We would expect owners to have less of a deficit than renters. For current owners, about 28 percent of married-couple families and about 22 percent of unrelated individuals have a deficit of less than \$20,000. About 22 percent of owner married-couple families and about 28 percent of unrelated individuals had a deficit of \$50,000 or more. The median deficit for owner married-couples who could afford any house was \$30,500, and was \$35,000 for owner unrelated individuals (table 9).

Renters had a much larger affordability deficit. Over half of married-couple families and half of unrelated individuals had a deficit of over \$50,000, while about 5 percent of married-couple families and unrelated individuals had a deficit of less than \$20,000. The median affordability deficit for those who could afford any house was about \$57,000 for both renter families and unrelated individuals (table 9).

EFFECT OF CHANGES IN INTEREST RATES

The level of interest rates generally has a significant effect on the level of affordability. Each change in the level of interest rates will change the number and percentage of families and individuals who can qualify for a home purchase because it changes the amount of income needed for mortgage payments—one of the factors determining affordability.

For family owners, if interest rates on conventional mortgages were 2 percentage points higher than in February - May 1988, the percentage who could not afford the median-priced home would increase from 31 percent to 33 percent. Put another way, an additional 1 million families could not afford to buy. If rates declined 2 percentage points, the percentage of families who could not afford to purchase a home would decrease to about 29 percent, or about 900,000 more families could afford to buy (table 10).

For unrelated individual owners, 56 percent could not afford the median home if rates rose 2 percentage points, while about 51 percent could not qualify if they went down 2 points. Approximately 700,000 owner unrelated individuals would be affected by a change of 4 percentage points (table 10).

Changes in interest rates had less effect on renters. For families, the percentage who could not afford a house stayed at approximately 90 percent with both a 2-percentage-point rise in interest rates, and a 2-point decline in rates. For unrelated individual renters, the percentage who could not afford a house went from 91 to 93 percent with a change of 4 percentage points in interest rates, from 2 points below the current rate to 2 points above (table 10).

A change in interest rates of 4 percentage points (from 2 points below the rate in February - May 1988 to 2 points above), resulted in about a 4-percentage-point change in the percentage of owners who could afford the median-priced home in the region where they lived and no statistically significant change for renters. Between the extremes in rates, about 2.7 million owners would be affected, but there was no significant difference in the number of renters affected. Once again, this emphasizes that it is lack of cash as well as income that prevents renters from moving into homeownership (table 10 and figure 5).

MODESTLY PRICED HOMES

It is not necessary to purchase the median-priced home to become a homeowner. By definition, one-half of all homes in an area are priced below the median. It is reasonable to assume that buyers, particularly those moving into homeownership for the first time, would seek homes priced below the median. The following analysis is based on a "modestly" priced home, that is, one priced such that 25 percent of all homes in a region are below this value and 75 percent are above (the first quartile). For a further discussion of modestly priced homes, see appendix C.

In 1988, 48 percent of all families and unrelated individuals could not afford to buy a modestly priced home in the region where they lived, compared with 57 percent who could not afford the median-priced home. Approximately 9.1 million more families and unrelated individuals could afford a modestly priced house than could afford the median-priced home (table 11).

About 39 percent of all families and almost two-thirds of unrelated individuals could not afford a modestly priced home, in each case about 10 percentage points lower than the percentage who could not afford the median-priced home. Only 22 percent of married-couple families without children under 18 could not afford to purchase a modestly priced house, while 81 percent of female householders and two-thirds of male householders with children under 18 could not afford a house (table 11).

For owners, 25 percent could not afford a modestly priced home, compared with 36 percent who could not afford the median-priced home. For owner families, 21 percent could not afford a modestly priced home, while about 36 percent of unrelated individuals could not afford to buy. Among different types of families, 11 percent of married-couple families without children could not qualify, compared with 60 percent of female householders with children under 18 (table 11).

About 85 percent of both families and unrelated individuals who were renters could not afford a modestly priced house, compared with about 91 percent of each group who could not afford the median-priced home.

analysis is based on the price of newly built, single-family homes. (For a further explanation, see appendix C.)

In 1988, 69 percent of all families and unrelated individuals could not afford to buy a newly built, single-family home in the region where they lived, compared with 57 percent who could not afford the median-priced home. Approximately 61 percent of all families and about 84 percent of unrelated individuals could not afford a new home, 13 and 10 percentage points higher than the percentage who could not afford the median-priced home. About 46 percent of married-couple families without children under 18 could not afford a new home, while 93 percent of female householders and 84 percent of male householders with children under 18 could not qualify (table 13).

For owners, 53 percent could not afford a new home, compared with 36 percent for the median-priced home. For owner families, 48 percent could not afford a new home, while 71 percent of unrelated individuals were unable to qualify. Among different types of families, 36 percent of married-couple families without children under 18 could not qualify, compared with 85 percent of female householders with children under 18 who could not purchase a new home (table 13).

About 95 percent of both families and unrelated individuals who were renters could not afford to purchase a new home, compared with about 90 percent who could not afford the median-priced home. Among families, about 90 percent of married-couple families without children under 18, and about 95 percent of male and female householders with children under 18 could not afford a new home (table 13).

FHA MORTGAGE INSURANCE

The FHA mortgage insurance program allows the mortgage applicant to spend a higher percentage of their income on housing and debt payments, compared with conventional mortgage qualification guidelines, and to finance part of their closing costs and points and the entire mortgage insurance premium. However, the limits set on the total mortgage amount are somewhat lower

than the limits allowed under conventional mortgage guidelines, even though FHA has certain "high cost areas" where the limit is increased to \$124,875. In this report, for ease of computation, an FHA mortgage limit corresponding to the high cost areas was used in all cases. In general, use of FHA-insured mortgage guidelines results in a lower percentage of families and unrelated individuals that could not afford the median-priced house (the number of families able to qualify increases). This discussion will focus only on the highlights of the differences between using conventional and FHA-insured financing (all tables present findings for both types of financing).

In the spring of 1988, 55 percent of all families and unrelated individuals—34 percent of current owners and 89 percent of current renters—could not afford to buy the median-priced home in the region where they lived using FHA, fixed-rate, 30-year financing. In each case, this is about 2 percentage points less than the percentage that could not qualify under conventional financing. FHA guidelines allowed an additional 2.0 million families and unrelated individuals to qualify for the purchase of the median-priced house in their region, compared with conventional financing (table 1).

About 45 percent of families and unrelated individuals could not afford to buy a modestly priced house under FHA guidelines. This is in contrast to 48 percent who could not qualify under conventional financing. About 2.9 million more families and unrelated individuals could afford a modestly priced home with an FHA-insured mortgage (table 11).

USER COMMENTS

We are interested in your reaction to the usefulness and content of this report. We welcome any recommendations or comments you might have. Please send them to:

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Table 1. Affordability Status of Families and Unrelated Individuals, by Current Tenure, Type of Family, and Type of Financing: United States and Regions, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Type of family/unrelated individual and region	Total			Current owners			Current renters		
	Total	Cannot afford median-priced home in region		Total	Cannot afford median-priced home in region		Total	Cannot afford median-priced home in region	
		Number	Percent		Number	Percent		Number	Percent
UNITED STATES									
Using Conventional, Fixed-Rate, 30-Year Financing									
Total.....	100,593	56,929	56.6	62,914	22,637	36.0	37,678	34,291	91.0
Families.....	67,957	32,581	47.9	48,540	15,023	30.9	19,418	17,558	90.4
Married-couple families.....	52,445	20,622	39.3	40,588	10,368	25.5	11,857	10,254	86.5
With children under 18 years.....	25,600	12,369	48.3	18,549	5,974	32.2	7,051	6,395	90.7
With no children under 18 years.....	26,845	8,253	30.7	22,038	4,394	19.9	4,807	3,859	80.3
Male householder, no wife present.....	2,919	1,942	66.5	1,797	897	49.9	1,122	1,044	93.0
With children under 18 years.....	1,258	942	74.9	777	493	63.4	481	449	93.3
With no children under 18 years.....	1,661	1,000	60.2	1,020	405	39.7	641	595	92.8
Female householder, no husband present.....	12,593	10,017	79.5	6,155	3,757	61.0	6,438	6,260	97.2
With children under 18 years.....	8,226	7,164	87.1	3,251	2,326	71.5	4,975	4,838	97.2
With no children under 18 years.....	4,368	2,854	65.3	2,905	1,432	49.3	1,463	1,422	97.2
Unrelated individuals.....	32,636	24,348	74.6	14,374	7,614	53.0	18,261	16,734	91.6
Male.....	15,269	11,685	76.5	5,976	3,251	54.4	9,293	8,434	90.8
Female.....	17,366	12,663	72.9	8,398	4,363	52.0	8,968	8,300	92.6
Using FHA, Fixed-Rate, 30-Year Financing									
Total.....	100,593	54,896	54.6	62,914	21,368	34.0	37,678	33,528	89.0
Families.....	67,957	30,970	45.6	48,540	13,936	28.7	19,418	17,034	87.7
Married-couple families.....	52,445	19,203	36.6	40,588	9,396	23.1	11,857	9,807	82.7
With children under 18 years.....	25,600	11,454	44.7	18,549	5,317	28.7	7,051	6,137	87.0
With no children under 18 years.....	26,845	7,749	28.9	22,038	4,079	18.5	4,807	3,670	76.3
Male householder, no wife present.....	2,919	1,884	64.5	1,797	849	47.2	1,122	1,034	92.2
With children under 18 years.....	1,258	911	72.4	777	472	60.7	481	439	91.3
With no children under 18 years.....	1,661	972	58.5	1,020	377	37.0	641	595	92.8
Female householder, no husband present.....	12,593	9,884	78.5	6,155	3,691	60.0	6,438	6,193	96.2
With children under 18 years.....	8,226	7,070	85.9	3,251	2,283	70.2	4,975	4,787	96.2
With no children under 18 years.....	4,368	2,815	64.4	2,905	1,409	48.5	1,463	1,406	96.1
Unrelated individuals.....	32,636	23,925	73.3	14,374	7,432	51.7	18,261	16,493	90.3
Male.....	15,269	11,411	74.7	5,976	3,166	53.0	9,293	8,245	88.7
Female.....	17,366	12,514	72.1	8,398	4,265	50.8	8,968	8,249	92.0
NORTHEAST									
Using Conventional, Fixed-Rate, 30-Year Financing.....									
Total families.....	20,110	11,877	59.1	11,876	4,219	35.5	8,234	7,658	93.0
Families.....	13,491	6,660	49.4	9,257	2,749	29.7	4,234	3,910	92.3
Married-couple families.....	10,244	3,986	38.9	7,872	1,905	24.2	2,372	2,082	87.8
With children under 18 years.....	4,903	2,150	43.9	3,569	933	26.1	1,334	1,217	91.3
With no children under 18 years.....	5,341	1,836	34.4	4,302	972	22.6	1,038	864	83.3
Male householder, no wife present.....	607	417	68.7	337	180	53.4	271	237	87.6
With children under 18 years.....	228	167	73.4	150	90	(s)	77	77	(s)
With no children under 18 years.....	380	250	65.8	186	90	(s)	194	160	(s)
Female householder, no husband present.....	2,640	2,256	85.5	1,048	665	63.4	1,591	1,591	100.0
With children under 18 years.....	1,714	1,560	91.0	515	360	69.9	1,199	1,199	100.0
With no children under 18 years.....	925	697	75.3	533	305	57.2	392	392	100.0
Unrelated individuals.....	6,619	5,217	78.8	2,620	1,470	56.1	3,999	3,747	93.7
Male.....	2,830	2,183	77.2	981	489	49.9	1,849	1,694	91.6
Female.....	3,790	3,034	80.1	1,639	981	59.8	2,151	2,054	95.5

Table 1. Affordability Status of Families and Unrelated Individuals, by Current Tenure, Type of Family, and Type of Financing: United States and Regions, 1988—Con.
(Numbers in thousands. Data may not add to total due to rounding)

Type of family/unrelated individual and region	Total			Current owners			Current renters		
	Total	Cannot afford median-priced home in region		Total	Cannot afford median-priced home in region		Total	Cannot afford median-priced home in region	
		Number	Percent		Number	Percent		Number	Percent
SOUTH									
Using Conventional, Fixed-Rate, 30-Year Financing									
Total.....	33,571	18,685	55.7	22,139	8,403	38.0	11,432	10,282	89.9
Families.....	23,704	11,625	49.0	17,326	5,886	34.0	6,378	5,739	90.0
Married-couple families.....	17,988	7,318	40.7	14,110	3,988	28.3	3,877	3,330	85.9
With children under 18 years.....	8,639	4,450	51.5	6,287	2,340	37.2	2,352	2,110	89.7
With no children under 18 years.....	9,348	2,868	30.7	7,823	1,649	21.1	1,525	1,219	79.9
Male householder, no wife present.....	1,013	718	70.9	656	369	56.2	357	349	97.7
With children under 18 years.....	462	371	80.2	286	202	70.9	176	168	(s)
With no children under 18 years.....	551	347	63.0	371	167	45.0	180	180	(s)
Female householder, no husband present.....	4,703	3,589	76.3	2,560	1,529	59.7	2,143	2,061	96.1
With children under 18 years.....	2,900	2,437	84.0	1,321	927	70.2	1,579	1,510	95.6
With no children under 18 years.....	1,803	1,152	63.9	1,239	601	48.5	564	551	97.7
Unrelated individuals.....	9,867	7,060	71.5	4,813	2,517	52.3	5,054	4,543	89.9
Male.....	4,620	3,478	75.3	1,896	1,063	56.0	2,724	2,416	88.7
Female.....	5,247	3,581	68.3	2,917	1,454	49.9	2,330	2,127	91.3
Using FHA, Fixed-Rate, 30-Year Financing									
Total.....	33,571	17,740	52.8	22,139	7,810	35.3	11,432	9,930	86.9
Families.....	23,704	10,862	45.8	17,326	5,380	31.1	6,378	5,482	86.0
Married-couple families.....	17,988	6,629	36.9	14,110	3,508	24.9	3,877	3,121	80.5
With children under 18 years.....	8,639	3,997	46.3	6,287	2,010	32.0	2,352	1,987	84.5
With no children under 18 years.....	9,348	2,632	28.2	7,823	1,498	19.1	1,525	1,134	74.4
Male householder, no wife present.....	1,013	707	69.8	656	359	54.7	357	348	97.5
With children under 18 years.....	462	360	77.9	286	192	67.2	176	168	(s)
With no children under 18 years.....	551	347	63.0	371	167	45.0	180	180	(s)
Female householder, no husband present.....	4,703	3,526	75.0	2,560	1,513	59.1	2,143	2,013	93.9
With children under 18 years.....	2,900	2,397	82.6	1,321	919	69.6	1,579	1,478	93.6
With no children under 18 years.....	1,803	1,129	62.6	1,239	594	47.9	564	535	94.9
Unrelated individuals.....	9,867	6,878	69.7	4,813	2,430	50.5	5,054	4,448	88.0
Male.....	4,620	3,354	72.6	1,896	1,026	54.1	2,724	2,328	85.5
Female.....	5,247	3,524	67.2	2,917	1,404	48.1	2,330	2,120	91.0
WEST									
Using Conventional, Fixed-Rate, 30-Year Financing									
Total.....	21,317	13,387	62.8	12,201	4,934	40.4	9,116	8,453	92.7
Families.....	13,675	7,298	53.4	9,112	3,154	34.6	4,563	4,144	90.8
Married-couple families.....	10,765	4,989	46.3	7,756	2,336	30.1	3,010	2,653	88.2
With children under 18 years.....	5,410	3,089	57.1	3,503	1,345	38.4	1,907	1,743	91.4
With no children under 18 years.....	5,356	1,900	35.5	4,253	990	23.3	1,103	910	82.5
Male householder, no wife present.....	641	438	68.4	387	200	51.7	253	238	93.9
With children under 18 years.....	223	166	74.6	154	113	(s)	69	53	(s)
With no children under 18 years.....	418	272	65.1	233	87	37.5	184	184	(s)
Female householder, no husband present.....	2,269	1,871	82.5	969	618	63.8	1,301	1,254	96.4
With children under 18 years.....	1,582	1,419	89.7	551	424	77.0	1,031	994	96.5
With no children under 18 years.....	687	453	65.9	417	194	46.4	270	259	96.1
Unrelated individuals.....	7,642	6,088	79.7	3,089	1,780	57.6	4,552	4,308	94.6
Male.....	3,955	3,244	82.0	1,420	843	59.3	2,535	2,401	94.7
Female.....	3,686	2,845	77.2	1,669	937	56.2	2,017	1,907	94.5

Table 4. Affordability Status of Families and Unrelated Individuals, by "Available" Money Family Income, Current Tenure, and Type of Financing: United States, 1988—Con.

(Numbers in thousands. Data may not add to total due to rounding)

	Families												Unrelated individuals					
	Total				Married-couple				Male householder, no wife present				Female householder, no husband present				Total	
	Cannot afford median-priced home in region		Total		Cannot afford median-priced home in region		Total		Cannot afford median-priced home in region		Total		Cannot afford median-priced home in region		Total		Cannot afford median-priced home in region	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING FHA, FIXED-RATE, 30-YEAR FINANCING																		
Total.....	67,957		30,970		52,445		2,919		1,884		64.5		12,593		32,636		23,925	
No income or loss.....	4,759		4,360		1,451		337		305		82.5		2,971		3,115		2,966	
\$1 to \$4,999.....	2,741		2,455		89.6		155		147		90.5		1,750		3,115		2,966	
\$5,000 to \$9,999.....	5,790		5,326		89.6		447		355		(S)		2,215		3,823		3,231	
\$10,000 to \$14,999.....	7,395		6,831		73.0		306		260		79.4		1,829		7,519		5,817	
\$15,000 to \$19,999.....	6,944		6,481		65.3		336		302		77.3		1,576		5,749		4,460	
\$20,000 to \$24,999.....	7,888		7,418		56.4		404		304		74.7		1,576		3,654		2,688	
\$25,000 to \$29,999.....	5,692		5,344		46.7		446		304		68.1		719		3,215		2,165	
\$30,000 to \$34,999.....	5,318		5,049		41.2		192		71		68.1		643		1,726		1,116	
\$35,000 to \$39,999.....	4,822		4,511		34.8		160		65		(S)		310		1,381		680	
\$40,000 to \$44,999.....	3,480		3,234		24.2		111		30		(S)		190		873		397	
\$45,000 to \$49,999.....	3,250		3,011		19.0		609		30		(S)		134		387		164	
\$50,000 to \$59,999.....	3,732		3,464		17.5		530		10		(S)		65		354		70	
\$60,000 or more.....	6,148		5,846		12.4		458		5		(S)		87		315		68	
Median.....	\$23,900		\$14,600		5.6		313		12		(X)		104		524		103	
					\$29,000		\$19,100		\$12,600		(X)		\$8,600		\$11,600		\$10,000	
Current owners.....	48,540		13,936		40,588		1,797		849		47.3		6,155		14,374		7,432	
No income or loss.....	1,798		1,407		800		166		134		69.2		832		967		829	
\$1 to \$4,999.....	1,386		1,118		554		85		77		71.0		976		1,729		1,227	
\$5,000 to \$9,999.....	3,583		3,268		526		208		144		60.9		1,257		3,780		2,227	
\$10,000 to \$14,999.....	4,897		4,421		2,089		837		117		60.9		1,257		2,095		1,024	
\$15,000 to \$19,999.....	5,424		5,043		3,761		193		117		(S)		907		1,608		773	
\$20,000 to \$24,999.....	4,898		4,586		4,294		222		138		62.2		907		2,095		1,024	
\$25,000 to \$29,999.....	3,988		3,736		4,150		292		150		51.5		445		1,391		578	
\$30,000 to \$34,999.....	4,173		3,913		3,521		101		14		(S)		366		892		421	
\$35,000 to \$39,999.....	3,881		3,550		3,889		129		27		(S)		155		632		154	
\$40,000 to \$44,999.....	2,957		2,730		2,776		109		18		(S)		147		402		90	
\$45,000 to \$49,999.....	3,619		3,343		2,500		80		11		(S)		101		155		36	
\$50,000 to \$59,999.....	3,343		3,074		3,248		75		5		(S)		45		195		39	
\$60,000 or more.....	5,603		5,274		5,407		18		5		(S)		78		137		15	
Median.....	\$27,900		\$14,900		\$31,500		\$18,300		\$12,900		(X)		\$11,100		\$30		\$8,700	
					11,857		9,807		1,034		92.2		6,438		18,261		16,493	
Current renters.....	19,418		17,034		11,857		1,122		1,034		92.2		2,139		2,148		2,138	
No income or loss.....	2,961		2,953		651		171		171		100.0		974		2,094		2,004	
\$1 to \$4,999.....	1,355		1,338		312		70		70		(S)		958		3,739		3,590	
\$5,000 to \$9,999.....	2,207		2,158		1,037		210		210		100.0		958		3,654		3,436	
\$10,000 to \$14,999.....	2,498		2,410		1,469		143		143		(S)		669		2,046		1,915	
\$15,000 to \$19,999.....	2,520		2,334		1,668		182		164		(S)		274		1,824		1,587	
\$20,000 to \$24,999.....	2,000		1,828		1,573		154		154		(S)		155		834		696	
\$25,000 to \$29,999.....	1,704		1,430		1,346		81		56		(S)		155		749		527	
\$30,000 to \$34,999.....	1,145		936		943		46		38		(S)		43		471		307	
\$35,000 to \$39,999.....	941		617		886		13		13		(S)		33		232		128	
\$40,000 to \$44,999.....	631		330		458		31		19		(S)		20		159		31	
\$45,000 to \$49,999.....	523		358		601		10		10		(S)		9		118		53	
\$50,000 to \$59,999.....	389		189		380		10		10		(S)		9		194		83	
\$60,000 or more.....	545		152		534		11		-		(X)		5,600		\$11,600		\$10,800	
Median.....	\$16,400		\$14,300		\$22,500		\$13,800		\$12,300		(X)		\$5,600		\$5,600		\$5,000	

S = Data suppressed. X = Not applicable.

Table 6. Maximum-Priced Home That Can be Afforded, for Families and Unrelated Individuals, by Current Tenure and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Maximum-priced home	Families								Unrelated individuals	
	Total		Married-couple		Male householder, no wife present		Female householder, no husband present			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING										
Total	67,957	100.0	52,445	100.0	2,919	100.0	12,593	100.0	32,636	100.0
Cannot afford any house	10,170	15.0	4,642	8.9	722	24.7	4,805	38.2	6,231	19.1
Less than \$20,000	11,292	16.6	7,764	14.8	571	19.6	2,957	23.5	10,185	31.2
\$20,000 to \$29,999	1,957	2.9	1,388	2.6	119	4.1	449	3.6	1,692	5.2
\$30,000 to \$39,999	1,842	2.7	1,272	2.4	160	5.5	410	3.3	1,618	5.0
\$40,000 to \$49,999	2,049	3.0	1,428	2.7	94	3.2	529	4.2	1,539	4.7
\$50,000 to \$59,999	2,184	3.2	1,637	3.1	88	3.0	459	3.6	1,468	4.5
\$60,000 to \$69,999	2,283	3.4	1,787	3.4	97	3.3	399	3.2	1,355	4.2
\$70,000 to \$79,999	2,514	3.7	1,976	3.8	117	4.0	420	3.3	1,117	3.4
\$80,000 to \$89,999	2,641	3.9	2,279	4.3	87	3.0	275	2.2	1,044	3.2
\$90,000 to \$99,999	2,523	3.7	2,201	4.2	84	2.9	239	1.9	791	2.4
\$100,000 to \$124,999	5,475	8.1	4,772	9.1	216	7.4	487	3.9	1,507	4.6
\$125,000 to \$149,999	4,453	6.6	4,004	7.6	131	4.5	318	2.5	950	2.9
\$150,000 to \$199,999	6,520	9.6	5,957	11.4	126	4.3	437	3.5	1,226	3.8
\$200,000 or more	12,055	17.7	11,339	21.6	307	10.5	410	3.3	1,913	5.9
Median	\$78,800	(X)	\$99,300	(X)	\$33,000	(X)	\$20,000-	(X)	\$20,000-	(X)
Current owners										
Cannot afford any house	48,540	100.0	40,588	100.0	1,797	100.0	6,155	100.0	14,374	100.0
Less than \$20,000	3,165	6.5	1,970	4.9	201	11.2	994	16.1	1,156	8.0
\$20,000 to \$29,999	3,387	7.0	2,274	5.6	175	9.7	938	15.2	1,780	12.4
\$30,000 to \$39,999	1,224	2.5	790	1.9	110	6.1	323	5.2	707	4.9
\$40,000 to \$49,999	1,376	2.8	894	2.2	131	7.3	351	5.7	956	6.7
\$50,000 to \$59,999	1,635	3.4	1,148	2.8	55	3.1	433	7.0	989	6.9
\$60,000 to \$69,999	1,663	3.4	1,237	3.0	68	3.8	357	5.8	960	6.7
\$70,000 to \$79,999	1,968	4.1	1,546	3.8	66	3.7	356	5.8	979	6.8
\$80,000 to \$89,999	2,148	4.4	1,653	4.1	117	6.5	378	6.1	794	5.5
\$90,000 to \$99,999	2,401	4.9	2,058	5.1	87	4.8	256	4.2	845	5.9
\$100,000 to \$124,999	2,365	4.9	2,070	5.1	76	4.2	219	3.6	587	4.1
\$125,000 to \$149,999	5,099	10.5	4,437	10.9	216	12.0	446	7.2	1,110	7.7
\$150,000 to \$199,999	4,241	8.7	3,843	9.5	107	6.0	291	4.7	807	5.6
\$200,000 or more	6,234	12.8	5,712	14.1	116	6.5	405	6.6	1,035	7.2
Median	11,634	24.0	10,953	27.0	271	15.1	410	6.7	1,668	11.6
Current renters	\$114,400	(X)	\$126,400	(X)	\$77,900	(X)	\$51,100	(X)	\$66,500	(X)
Cannot afford any house	19,418	100.0	11,857	100.0	1,122	100.0	6,438	100.0	18,261	100.0
Less than \$20,000	7,004	36.1	2,672	22.5	521	46.4	3,811	59.2	5,075	27.8
\$20,000 to \$29,999	7,904	40.7	5,489	46.3	396	35.3	2,019	31.4	8,405	46.0
\$30,000 to \$39,999	733	3.8	598	5.0	9	0.8	126	2.0	985	5.4
\$40,000 to \$49,999	466	2.4	377	3.2	29	2.6	60	0.9	662	3.6
\$50,000 to \$59,999	414	2.1	279	2.4	39	3.5	96	1.5	550	3.0
\$60,000 to \$69,999	521	2.7	400	3.4	20	1.8	101	1.6	508	2.8
\$70,000 to \$79,999	315	1.6	240	2.0	31	2.8	44	0.7	376	2.1
\$80,000 to \$89,999	366	1.9	324	2.7	-	0.0	42	0.7	323	1.8
\$90,000 to \$99,999	240	1.2	221	1.9	-	0.0	19	0.3	199	1.1
\$100,000 to \$124,999	158	0.8	130	1.1	8	0.7	20	0.3	204	1.1
\$125,000 to \$149,999	376	1.9	335	2.8	-	0.0	41	0.6	397	2.2
\$150,000 to \$199,999	212	1.1	161	1.4	24	2.1	28	0.4	143	0.8
\$200,000 or more	286	1.5	244	2.1	10	0.9	32	0.5	191	1.0
Median	421	2.2	385	3.2	36	3.2	-	0.0	245	1.3
	\$20,000-	(X)	\$20,000-	(X)	\$20,000-	(X)	\$20,000-	(X)	\$20,000-	(X)

Table 7. Maximum-Priced Home That Can be Afforded, for Families and Unrelated Individuals, by Race and Hispanic Origin and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Maximum-priced home	Families								Unrelated individuals	
	Total		Married-couple		Male householder, no wife present		Female householder, no husband present			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING										
Total	67,957	100.0	52,445	100.0	2,919	100.0	12,593	100.0	32,636	100.0
Cannot afford any house	10,170	15.0	4,642	8.9	722	24.7	4,805	38.2	6,231	19.1
Less than \$20,000	11,292	16.6	7,764	14.8	572	19.6	2,957	23.5	10,185	31.2
\$20,000 to \$29,999	1,956	2.9	1,387	2.6	119	4.1	449	3.6	1,693	5.2
\$30,000 to \$39,999	1,842	2.7	1,272	2.4	160	5.5	410	3.3	1,619	5.0
\$40,000 to \$49,999	2,050	3.0	1,428	2.7	93	3.2	528	4.2	1,540	4.7
\$50,000 to \$59,999	2,184	3.2	1,637	3.1	88	3.0	459	3.6	1,468	4.5
\$60,000 to \$69,999	2,283	3.4	1,786	3.4	97	3.3	400	3.2	1,355	4.2
\$70,000 to \$79,999	2,514	3.7	1,977	3.8	117	4.0	421	3.3	1,117	3.4
\$80,000 to \$89,999	2,641	3.9	2,279	4.3	87	3.0	275	2.2	1,045	3.2
\$90,000 to \$99,999	2,523	3.7	2,200	4.2	84	2.9	238	1.9	790	2.4
\$100,000 to \$124,999	5,475	8.1	4,773	9.1	216	7.4	487	3.9	1,506	4.6
\$125,000 to \$149,999	4,453	6.6	4,004	7.6	131	4.5	318	2.5	949	2.9
\$150,000 to \$199,999	6,519	9.6	5,956	11.4	126	4.3	436	3.5	1,227	3.8
\$200,000 or more	12,055	17.7	11,339	21.6	307	10.5	410	3.3	1,912	5.9
Median	\$78,800	(X)	\$99,300	(X)	\$33,000	(X)	\$20,000-	(X)	\$20,000-	(X)
White										
Cannot afford any house	58,012	100.0	47,255	100.0	2,442	100.0	8,315	100.0	28,000	100.0
Less than \$20,000	6,552	11.3	3,671	7.8	572	23.4	2,308	27.8	4,542	16.2
\$20,000 to \$29,999	9,133	15.7	6,510	13.8	472	19.3	2,151	25.9	8,532	30.5
\$30,000 to \$39,999	1,624	2.8	1,252	2.6	73	3.0	299	3.6	1,507	5.4
\$40,000 to \$49,999	1,483	2.6	1,054	2.2	151	6.2	278	3.3	1,480	5.3
\$50,000 to \$59,999	1,663	2.9	1,223	2.6	64	2.6	376	4.5	1,420	5.1
\$60,000 to \$69,999	1,855	3.2	1,475	3.1	51	2.1	330	4.0	1,323	4.7
\$70,000 to \$79,999	1,934	3.3	1,539	3.3	84	3.4	311	3.7	1,208	4.3
\$80,000 to \$89,999	2,212	3.8	1,779	3.8	103	4.2	330	4.0	1,059	3.8
\$90,000 to \$99,999	2,413	4.2	2,122	4.5	66	2.7	225	2.7	912	3.3
\$100,000 to \$124,999	2,322	4.0	2,017	4.3	84	3.4	220	2.6	706	2.5
\$125,000 to \$149,999	5,048	8.7	4,434	9.4	207	8.5	407	4.9	1,365	4.9
\$150,000 to \$199,999	4,044	7.0	3,678	7.8	98	4.0	269	3.2	917	3.3
\$200,000 or more	6,197	10.7	5,641	11.9	126	5.2	430	5.2	1,154	4.1
Median	11,533	19.9	10,860	23.0	291	11.9	382	4.6	1,876	6.7
Median	\$90,600	(X)	\$105,600	(X)	\$36,900	(X)	\$20,000-	(X)	\$26,100	(X)
Black										
Cannot afford any house	8,045	100.0	3,725	100.0	343	100.0	3,977	100.0	3,875	100.0
Less than \$20,000	3,230	40.1	727	19.5	141	41.1	2,362	59.4	1,509	38.9
\$20,000 to \$29,999	1,679	20.9	859	23.1	80	23.3	740	18.6	1,334	34.4
\$30,000 to \$39,999	261	3.2	93	2.5	37	10.8	130	3.3	161	4.2
\$40,000 to \$49,999	312	3.9	179	4.8	-	0.0	132	3.3	115	3.0
\$50,000 to \$59,999	315	3.9	153	4.1	29	8.5	132	3.3	79	2.0
\$60,000 to \$69,999	231	2.9	118	3.2	8	2.3	104	2.6	139	3.6
\$70,000 to \$79,999	297	3.7	195	5.2	13	3.8	89	2.2	147	3.8
\$80,000 to \$89,999	258	3.2	168	4.5	-	0.0	91	2.3	43	1.1
\$90,000 to \$99,999	197	2.4	134	3.6	13	3.8	50	1.3	98	2.5
\$100,000 to \$124,999	130	1.6	121	3.2	-	0.0	9	0.2	67	1.7
\$125,000 to \$149,999	361	4.5	281	7.5	9	2.6	71	1.8	98	2.5
\$150,000 to \$199,999	338	4.2	285	7.7	13	3.8	40	1.0	20	0.5
\$200,000 or more	179	2.2	172	4.6	-	0.0	6	0.2	48	1.2
Median	258	3.2	240	6.4	-	0.0	19	0.5	18	0.5
Median	\$20,000-	(X)	\$40,300	(X)	\$20,000-	(X)	\$20,000-	(X)	\$20,000-	(X)

Table 7. Maximum-Priced Home That Can be Afforded, for Families and Unrelated Individuals, by Race and Hispanic Origin and Type of Financing: United States, 1988—Con.

(Numbers in thousands. Data may not add to total due to rounding)

Maximum-priced home	Families								Unrelated individuals	
	Total		Married-couple		Male householder, no wife present		Female householder, no husband present			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING FHA, FIXED-RATE, 30-YEAR FINANCING										
Total	67,957	100.0	52,445	100.0	2,919	100.0	12,593	100.0	32,636	100.0
Cannot afford any house	6,708	9.9	4,075	7.8	542	18.6	2,091	16.6	4,309	13.2
Less than \$20,000	12,739	18.7	6,662	12.7	631	21.6	5,446	43.2	11,193	34.3
\$20,000 to \$29,999	2,024	3.0	1,373	2.6	186	6.4	465	3.7	1,748	5.4
\$30,000 to \$39,999	1,952	2.9	1,380	2.6	123	4.2	449	3.6	1,806	5.5
\$40,000 to \$49,999	2,197	3.2	1,516	2.9	126	4.3	555	4.4	1,682	5.2
\$50,000 to \$59,999	2,057	3.0	1,536	2.9	80	2.7	442	3.5	1,454	4.5
\$60,000 to \$69,999	2,457	3.6	1,921	3.7	111	3.8	425	3.4	1,442	4.4
\$70,000 to \$79,999	2,809	4.1	2,212	4.2	117	4.0	480	3.8	1,242	3.8
\$80,000 to \$89,999	2,626	3.9	2,227	4.2	105	3.6	294	2.3	1,070	3.3
\$90,000 to \$99,999	2,648	3.9	2,353	4.5	73	2.5	222	1.8	855	2.6
\$100,000 to \$124,999	7,157	10.5	6,351	12.1	262	9.0	544	4.3	1,739	5.3
\$125,000 to \$149,999	5,576	8.2	5,070	9.7	133	4.6	372	3.0	1,094	3.4
\$150,000 to \$199,999	7,237	10.6	6,616	12.6	187	6.4	434	3.4	1,177	3.6
\$200,000 or more	9,769	14.4	9,152	17.5	243	8.3	374	3.0	1,824	5.6
Median	\$83,900	(X)	\$103,800	(X)	\$38,200	(X)	\$20,000-	(X)	\$24,700	(X)
White										
Total	58,012	100.0	47,255	100.0	2,442	100.0	8,315	100.0	28,000	100.0
Cannot afford any house	4,721	8.1	3,285	7.0	440	18.0	996	12.0	3,287	11.7
Less than \$20,000	9,268	16.0	5,444	11.5	510	20.9	3,314	39.9	9,013	32.2
\$20,000 to \$29,999	1,637	2.8	1,199	2.5	128	5.2	310	3.7	1,503	5.4
\$30,000 to \$39,999	1,626	2.8	1,240	2.6	108	4.4	278	3.3	1,657	5.9
\$40,000 to \$49,999	1,809	3.1	1,285	2.7	88	3.6	436	5.2	1,536	5.5
\$50,000 to \$59,999	1,744	3.0	1,363	2.9	68	2.8	313	3.8	1,289	4.6
\$60,000 to \$69,999	2,035	3.5	1,619	3.4	98	4.0	318	3.8	1,310	4.7
\$70,000 to \$79,999	2,453	4.2	2,001	4.2	94	3.8	358	4.3	1,160	4.1
\$80,000 to \$89,999	2,356	4.1	2,044	4.3	68	2.8	244	2.9	981	3.5
\$90,000 to \$99,999	2,460	4.2	2,190	4.6	73	3.0	197	2.4	747	2.7
\$100,000 to \$124,999	6,502	11.2	5,794	12.3	253	10.4	455	5.5	1,555	5.6
\$125,000 to \$149,999	5,132	8.8	4,700	9.9	109	4.5	323	3.9	1,034	3.7
\$150,000 to \$199,999	6,859	11.8	6,253	13.2	178	7.3	428	5.1	1,141	4.1
\$200,000 or more	9,409	16.2	8,836	18.7	227	9.3	346	4.2	1,788	6.4
Median	\$95,500	(X)	\$108,400	(X)	\$44,000	(X)	\$20,000-	(X)	\$31,200	(X)
Black										
Total	8,045	100.0	3,725	100.0	343	100.0	3,977	100.0	3,875	100.0
Cannot afford any house	1,761	21.9	625	16.8	93	27.1	1,043	26.2	898	23.2
Less than \$20,000	2,900	36.0	815	21.9	101	29.4	1,984	49.9	1,850	47.7
\$20,000 to \$29,999	298	3.7	114	3.1	49	14.3	135	3.4	188	4.9
\$30,000 to \$39,999	289	3.6	103	2.8	15	4.4	171	4.3	135	3.5
\$40,000 to \$49,999	288	3.6	160	4.3	29	8.5	99	2.5	107	2.8
\$50,000 to \$59,999	236	2.9	124	3.3	8	2.3	104	2.6	135	3.5
\$60,000 to \$69,999	362	4.5	242	6.5	13	3.8	107	2.7	132	3.4
\$70,000 to \$79,999	289	3.6	167	4.5	-	0.0	122	3.1	67	1.7
\$80,000 to \$89,999	230	2.9	167	4.5	13	3.8	50	1.3	73	1.9
\$90,000 to \$99,999	116	1.4	100	2.7	-	0.0	16	0.4	71	1.8
\$100,000 to \$124,999	548	6.8	459	12.3	9	2.6	80	2.0	132	3.4
\$125,000 to \$149,999	323	4.0	270	7.2	13	3.8	40	1.0	32	0.8
\$150,000 to \$199,999	260	3.2	254	6.8	-	0.0	6	0.2	36	0.9
\$200,000 or more	144	1.8	125	3.4	-	0.0	19	0.5	18	0.5
Median	\$20,000-	(X)	\$53,700	(X)	\$20,000-	(X)	\$20,000-	(X)	\$20,000-	(X)

Table 8. Ratio of Maximum-Priced Home That Can Be Afforded to Median-Priced Home in Region, for Families and Unrelated Individuals, by Current Tenure and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Affordability ratio	Families								Unrelated individuals	
	Total		Married-couple		Male householder, no wife present		Female householder, no husband present			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING										
Total	67,957	100.0	52,445	100.0	2,919	100.0	12,593	100.0	32,636	100.0
Cannot afford any house.....	10,170	15.0	4,642	8.9	722	24.7	4,805	38.2	6,231	19.1
Less than 0.25.....	10,773	15.9	7,440	14.2	522	17.9	2,811	22.3	10,056	30.8
0.25 to 0.49	3,454	5.1	2,407	4.6	236	8.1	811	6.4	2,837	8.7
0.50 to 0.74	3,880	5.7	2,737	5.2	281	9.6	862	6.8	2,885	8.8
0.75 to 0.99	4,305	6.3	3,396	6.5	181	6.2	728	5.8	2,339	7.2
1.00 to 1.24	4,431	6.5	3,569	6.8	208	7.1	654	5.2	1,886	5.8
1.25 to 1.49	4,111	6.0	3,518	6.7	109	3.7	484	3.8	1,491	4.6
1.50 to 1.99	7,552	11.1	6,770	12.9	179	6.1	603	4.8	1,864	5.7
2.00 or more	19,282	28.4	17,966	34.3	482	16.5	834	6.6	3,047	9.3
Median ¹	1.37	(X)	1.56	(X)	0.83	(X)	0.58	(X)	0.53	(X)
Current owners										
Total	48,540	100.0	40,588	100.0	1,797	100.0	6,155	100.0	14,374	100.0
Cannot afford any house.....	3,165	6.5	1,970	4.9	201	11.2	994	16.1	1,156	8.0
Less than 0.25.....	2,879	5.9	1,945	4.8	139	7.7	795	12.9	1,699	11.8
0.25 to 0.49	2,351	4.8	1,554	3.8	188	10.5	609	9.9	1,306	9.1
0.50 to 0.74	3,011	6.2	2,040	5.0	198	11.0	773	12.6	1,810	12.6
0.75 to 0.99	3,616	7.4	2,859	7.0	171	9.5	586	9.5	1,643	11.4
1.00 to 1.24	3,955	8.1	3,165	7.8	208	11.6	582	9.5	1,438	10.0
1.25 to 1.49	3,777	7.8	3,221	7.9	106	5.9	450	7.3	1,241	8.6
1.50 to 1.99	7,260	15.0	6,514	16.0	161	9.0	585	9.5	1,452	10.1
2.00 or more	18,525	38.2	17,319	42.7	425	23.7	781	12.7	2,629	18.3
Median ¹	1.71	(X)	1.95	(X)	1.12	(X)	0.92	(X)	1.03	(X)
Current renters										
Total	19,418	100.0	11,857	100.0	1,122	100.0	6,438	100.0	18,261	100.0
Cannot afford any house.....	7,004	36.1	2,672	22.5	521	46.4	3,811	59.2	5,075	27.8
Less than 0.25.....	7,894	40.7	5,495	46.3	383	34.1	2,016	31.3	8,357	45.8
0.25 to 0.49	1,102	5.7	853	7.2	47	4.2	202	3.1	1,531	8.4
0.50 to 0.74	869	4.5	697	5.9	83	7.4	89	1.4	1,076	5.9
0.75 to 0.99	691	3.6	538	4.5	10	0.9	143	2.2	695	3.8
1.00 to 1.24	477	2.5	404	3.4	-	0.0	73	1.1	448	2.5
1.25 to 1.49	335	1.7	297	2.5	3	0.3	35	0.5	250	1.4
1.50 to 1.99	292	1.5	256	2.2	18	1.6	18	0.3	412	2.3
2.00 or more	756	3.9	646	5.4	57	5.1	53	0.8	418	2.3
Median ¹	0.25-	(X)	0.25-	(X)	0.25-	(X)	0.25-	(X)	0.25-	(X)
USING FHA, FIXED-RATE, 30-YEAR FINANCING										
Total	67,957	100.0	52,445	100.0	2,919	100.0	12,593	100.0	32,636	100.0
Cannot afford any house.....	6,708	9.9	4,075	7.8	542	18.6	2,091	16.6	4,309	13.2
Less than 0.25.....	12,348	18.2	6,431	12.3	624	21.4	5,292	42.0	10,885	33.4
0.25 to 0.49	3,391	5.0	2,337	4.5	239	8.2	815	6.5	3,221	9.9
0.50 to 0.74	4,096	6.0	2,833	5.4	275	9.4	987	7.8	3,012	9.2
0.75 to 0.99	4,427	6.5	3,526	6.7	203	6.9	698	5.5	2,498	7.7
1.00 to 1.24	5,040	7.4	4,095	7.8	225	7.7	720	5.7	2,128	6.5
1.25 to 1.49	4,683	6.9	4,034	7.7	117	4.0	533	4.2	1,627	5.0
1.50 to 1.99	9,008	13.3	8,144	15.5	244	8.3	620	4.9	1,959	6.0
2.00 or more	18,256	26.9	16,969	32.4	450	15.4	837	6.6	2,997	9.2
Median ¹	1.32	(X)	1.56	(X)	0.81	(X)	0.25-	(X)	0.50	(X)

Table 9. Affordability Deficit for Families and Unrelated Individuals That Cannot Afford Median-Priced Home in Region, by Current Tenure and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Affordability deficit	Families								Unrelated individuals	
	Total		Married-couple		Male householder, no wife present		Female house- holder, no husband present			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING										
Total	32,581	100.0	20,622	100.0	1,942	100.0	10,017	100.0	24,348	100.0
Less than \$10,000	2,232	6.9	1,743	8.5	88	4.5	401	4.0	1,145	4.7
\$10,000 to \$19,999	2,433	7.5	1,820	8.8	87	4.5	526	5.3	1,403	5.8
\$20,000 to \$29,999	2,155	6.6	1,531	7.4	188	9.7	436	4.4	1,556	6.4
\$30,000 to \$39,999	2,113	6.5	1,520	7.4	140	7.2	453	4.5	1,511	6.2
\$40,000 to \$49,999	2,008	6.2	1,471	7.1	138	7.1	399	4.0	1,833	7.5
\$50,000 to \$59,999	6,031	18.5	4,254	20.6	296	15.2	1,481	14.8	4,971	20.4
\$60,000 to \$79,999	1,137	3.5	846	4.1	78	4.0	212	2.1	1,269	5.2
\$80,000 to \$99,999	4,304	13.2	2,795	13.6	204	10.5	1,305	13.0	4,429	18.2
Cannot afford any house	10,170	31.2	4,642	22.5	722	37.2	4,805	48.0	6,231	25.6
Median deficit ¹	\$50,400	(X)	\$49,400	(X)	\$47,800	(X)	\$52,600	(X)	\$53,200	(X)
Current owners										
Total	15,023	100.0	10,368	100.0	897	100.0	3,757	100.0	7,614	100.0
Less than \$10,000	1,854	12.3	1,469	14.2	88	9.8	296	7.9	808	10.6
\$10,000 to \$19,999	2,053	13.7	1,523	14.7	77	8.6	453	12.1	1,010	13.3
\$20,000 to \$29,999	1,703	11.3	1,155	11.1	149	16.6	399	10.6	978	12.8
\$30,000 to \$39,999	1,580	10.5	1,090	10.5	112	12.5	377	10.0	864	11.3
\$40,000 to \$49,999	1,428	9.5	1,022	9.9	91	10.2	314	8.4	734	9.6
\$50,000 to \$59,999	1,877	12.5	1,285	12.4	79	8.8	514	13.7	996	13.1
\$60,000 to \$79,999	475	3.2	308	3.0	51	5.7	116	3.1	417	5.5
\$80,000 to \$99,999	888	5.9	546	5.3	48	5.3	295	7.8	651	8.5
Cannot afford any house	3,165	21.1	1,970	19.0	201	22.4	994	26.5	1,156	15.2
Median deficit ¹	\$32,000	(X)	\$30,500	(X)	\$33,000	(X)	\$36,200	(X)	\$35,000	(X)
Current renters										
Total	17,558	100.0	10,254	100.0	1,044	100.0	6,260	100.0	16,734	100.0
Less than \$10,000	378	2.2	274	2.7	-	0.0	104	1.7	337	2.0
\$10,000 to \$19,999	380	2.2	297	2.9	10	0.9	73	1.2	393	2.3
\$20,000 to \$29,999	452	2.6	376	3.7	39	3.7	37	0.6	578	3.5
\$30,000 to \$39,999	533	3.0	430	4.2	27	2.6	76	1.2	647	3.9
\$40,000 to \$49,999	580	3.3	449	4.4	47	4.5	85	1.4	1,099	6.6
\$50,000 to \$59,999	4,153	23.7	2,969	29.0	217	20.8	967	15.5	3,975	23.8
\$60,000 to \$79,999	662	3.8	538	5.3	27	2.6	97	1.5	852	5.1
\$80,000 to \$99,999	3,415	19.5	2,249	21.9	156	15.0	1,010	16.1	3,779	22.6
Cannot afford any house	7,004	39.9	2,672	26.1	521	49.9	3,811	60.9	5,075	30.3
Median deficit ¹	\$57,100	(X)	\$56,600	(X)	\$56,400	(X)	\$58,800	(X)	\$57,000	(X)
USING FHA, FIXED-RATE, 30-YEAR, FINANCING										
Total	30,970	100.0	19,203	100.0	1,884	100.0	9,884	100.0	23,925	100.0
Less than \$10,000	2,192	7.1	1,757	9.1	66	3.5	368	3.7	1,179	4.9
\$10,000 to \$19,999	2,632	8.5	1,910	9.9	156	8.3	566	5.7	1,524	6.4
\$20,000 to \$29,999	2,307	7.4	1,684	8.8	160	8.5	463	4.7	1,630	6.8
\$30,000 to \$39,999	2,056	6.6	1,393	7.3	175	9.3	488	4.9	1,704	7.1
\$40,000 to \$49,999	2,164	7.0	1,559	8.1	96	5.1	509	5.2	2,047	8.6
\$50,000 to \$59,999	6,603	21.3	3,488	18.2	339	18.0	2,776	28.1	5,276	22.1
\$60,000 to \$79,999	1,259	4.1	907	4.7	110	5.8	242	2.5	1,505	6.3
\$80,000 to \$99,999	5,049	16.3	2,430	12.7	239	12.7	2,380	24.1	4,750	19.9
Cannot afford any house	6,708	21.7	4,075	21.2	542	28.8	2,091	21.2	4,309	18.0
Median deficit ¹	\$51,200	(X)	\$45,300	(X)	\$50,500	(X)	\$55,400	(X)	\$53,300	(X)

Table 10. Effect of Changes in Interest Rates on Affordability Status of Families and Unrelated Individuals, by Current Tenure and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Change in interest rate	Cannot afford median-priced home in region									
	Total families		Married-couple families		Male householder, no wife present families		Female householder, no husband present families		Unrelated Individuals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING										
Total										
Rate 2.0 percent lower	31,488	46.3	19,719	37.6	1,883	64.5	9,886	78.5	23,857	73.1
Rate 1.5 percent lower	31,734	46.7	19,929	38.0	1,894	64.9	9,911	78.7	23,987	73.5
Rate 1.0 percent lower	31,991	47.1	20,139	38.4	1,903	65.2	9,948	79.0	24,151	74.0
Rate 0.5 percent lower	32,290	47.5	20,401	38.9	1,915	65.6	9,974	79.2	24,216	74.2
Current rate	32,581	47.9	20,622	39.3	1,942	66.5	10,017	79.5	24,348	74.6
Rate 0.5 percent higher	32,937	48.5	20,926	39.9	1,950	66.8	10,062	79.9	24,477	75.0
Rate 1.0 percent higher	33,132	48.8	21,083	40.2	1,950	66.8	10,100	80.2	24,705	75.7
Rate 1.5 percent higher	33,406	49.2	21,345	40.7	1,962	67.2	10,100	80.2	24,869	76.2
Rate 2.0 percent higher	33,671	49.5	21,555	41.1	1,979	67.8	10,137	80.5	24,967	76.5
Current Owners										
Rate 2.0 percent lower	14,097	29.0	9,579	23.6	837	46.6	3,681	59.8	7,302	50.8
Rate 1.5 percent lower	14,272	29.4	9,741	24.0	850	47.3	3,681	59.8	7,374	51.3
Rate 1.0 percent lower	14,514	29.9	9,944	24.5	859	47.8	3,711	60.3	7,474	52.0
Rate 0.5 percent lower	14,789	30.5	10,188	25.1	872	48.5	3,730	60.6	7,532	52.4
Current rate	15,023	30.9	10,368	25.5	897	49.9	3,757	61.0	7,614	53.0
Rate 0.5 percent higher	15,337	31.6	10,634	26.2	906	50.4	3,798	61.7	7,690	53.5
Rate 1.0 percent higher	15,524	32.0	10,796	26.6	906	50.4	3,822	62.1	7,863	54.7
Rate 1.5 percent higher	15,744	32.4	10,999	27.1	916	51.0	3,828	62.2	7,978	55.5
Rate 2.0 percent higher	16,044	33.1	11,243	27.7	936	52.1	3,865	62.8	8,035	55.9
Current Renters										
Rate 2.0 percent lower	17,376	89.5	10,126	85.4	1,044	93.0	6,206	96.4	16,563	90.7
Rate 1.5 percent lower	17,437	89.8	10,161	85.7	1,044	93.0	6,232	96.8	16,618	91.0
Rate 1.0 percent lower	17,449	89.9	10,173	85.8	1,044	93.0	6,232	96.8	16,672	91.3
Rate 0.5 percent lower	17,515	90.2	10,233	86.3	1,044	93.0	6,238	96.9	16,691	91.4
Current rate	17,558	90.4	10,254	86.5	1,044	93.0	6,260	97.2	16,734	91.6
Rate 0.5 percent higher	17,570	90.5	10,268	86.6	1,044	93.0	6,260	97.2	16,800	92.0
Rate 1.0 percent higher	17,618	90.7	10,304	86.9	1,044	93.0	6,271	97.4	16,837	92.2
Rate 1.5 percent higher	17,630	90.8	10,316	87.0	1,044	93.0	6,271	97.4	16,891	92.5
Rate 2.0 percent higher	17,642	90.9	10,327	87.1	1,044	93.0	6,271	97.4	16,928	92.7
USING FHA, FIXED-RATE, 30-YEAR FINANCING										
Total										
Rate 2.0 percent lower	29,659	43.6	18,049	34.4	1,855	63.5	9,755	77.5	23,405	71.7
Rate 1.5 percent lower	30,042	44.2	18,378	35.0	1,866	63.9	9,798	77.8	23,522	72.1
Rate 1.0 percent lower	30,348	44.7	18,666	35.6	1,874	64.2	9,808	77.9	23,683	72.6
Rate 0.5 percent lower	30,694	45.2	18,962	36.1	1,883	64.5	9,849	78.2	23,852	73.1
Current rate	30,970	45.6	19,203	36.6	1,884	64.5	9,884	78.5	23,925	73.3
Rate 0.5 percent higher	31,381	46.2	19,523	37.2	1,926	66.0	9,932	78.9	24,058	73.7
Rate 1.0 percent higher	31,758	46.7	19,832	37.8	1,931	66.2	9,995	79.4	24,283	74.4
Rate 1.5 percent higher	32,069	47.2	20,127	38.4	1,931	66.2	10,011	79.5	24,417	74.8
Rate 2.0 percent higher	32,321	47.6	20,368	38.8	1,931	66.2	10,022	79.6	24,615	75.4
Current Owners										
Rate 2.0 percent lower	12,837	26.4	8,399	20.7	821	45.7	3,617	58.8	7,121	49.5
Rate 1.5 percent lower	13,175	27.1	8,701	21.4	832	46.3	3,642	59.2	7,192	50.0
Rate 1.0 percent lower	13,447	27.7	8,965	22.1	840	46.7	3,642	59.2	7,284	50.7
Rate 0.5 percent lower	13,720	28.3	9,198	22.7	849	47.2	3,673	59.7	7,387	51.4
Current rate	13,936	28.7	9,396	23.1	849	47.2	3,691	60.0	7,432	51.7
Rate 0.5 percent higher	14,295	29.4	9,675	23.8	892	49.6	3,728	60.6	7,504	52.2
Rate 1.0 percent higher	14,593	30.1	9,916	24.4	897	49.9	3,780	61.4	7,640	53.2
Rate 1.5 percent higher	14,845	30.6	10,165	25.0	897	49.9	3,783	61.5	7,747	53.9
Rate 2.0 percent higher	15,072	31.1	10,385	25.6	897	49.9	3,790	61.6	7,912	55.0

Table 11. Affordability Status of Families and Unrelated Individuals for a Modestly Priced Home, by Current Tenure, Type of Family, and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Type of family/unrelated individual	Total			Current owners			Current renters		
	Total	Cannot afford modestly priced home in region		Total	Cannot afford modestly priced home in region		Total	Cannot afford modestly priced home in region	
		Number	Percent		Number	Percent		Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING									
Total	100,593	47,782	47.5	62,914	15,565	24.7	37,678	32,218	85.5
Families	67,957	26,746	39.4	48,540	10,232	21.1	19,418	16,515	85.0
Married-couple families	52,445	16,157	30.8	40,588	6,710	16.5	11,857	9,446	79.7
With children under 18 years	25,600	10,262	40.1	18,549	4,259	23.0	7,051	6,003	85.1
With no children under 18 years	26,845	5,894	22.0	22,038	2,451	11.1	4,807	3,443	71.6
Male householder, no wife present	2,919	1,672	57.3	1,797	670	37.3	1,122	1,003	89.4
With children under 18 years	1,258	834	66.3	777	395	50.8	481	439	91.3
With no children under 18 years	1,661	838	50.5	1,020	274	26.9	641	564	88.0
Female householder, no husband present	12,593	8,917	70.8	6,155	2,853	46.4	6,438	6,065	94.2
With children under 18 years	8,226	6,641	80.7	3,251	1,958	60.2	4,975	4,683	94.1
With no children under 18 years	4,368	2,276	52.1	2,905	894	30.8	1,463	1,382	94.5
Unrelated individuals	32,636	21,035	64.5	14,374	5,332	37.1	18,261	15,703	86.0
Male	15,269	10,454	68.5	5,976	2,423	40.5	9,293	8,031	86.4
Female	17,366	10,581	60.9	8,398	2,909	34.6	8,968	7,672	85.5
USING FHA, FIXED-RATE, 30-YEAR FINANCING									
Total	100,593	44,917	44.7	62,914	13,926	22.1	37,678	30,991	82.3
Families	67,957	24,629	36.2	48,540	8,804	18.1	19,418	15,825	81.5
Married-couple families	52,445	14,343	27.3	40,588	5,513	13.6	11,857	8,830	74.5
With children under 18 years	25,600	9,124	35.6	18,549	3,422	18.4	7,051	5,702	80.9
With no children under 18 years	26,845	5,219	19.4	22,038	2,090	9.5	4,807	3,128	65.1
Male householder, no wife present	2,919	1,549	53.1	1,797	588	32.7	1,122	961	85.7
With children under 18 years	1,258	766	60.9	777	343	44.1	481	423	88.1
With no children under 18 years	1,661	783	47.1	1,020	245	24.0	641	538	83.8
Female householder, no husband present	12,593	8,738	69.4	6,155	2,704	43.9	6,438	6,034	93.7
With children under 18 years	8,226	6,534	79.4	3,251	1,861	57.2	4,975	4,674	93.9
With no children under 18 years	4,368	2,203	50.4	2,905	843	29.0	1,463	1,360	93.0
Unrelated individuals	32,636	20,288	62.2	14,374	5,121	35.6	18,261	15,166	83.1
Male	15,269	9,986	65.4	5,976	2,329	39.0	9,293	7,656	82.4
Female	17,366	10,302	59.3	8,398	2,792	33.2	8,968	7,510	83.7

Table 13. Affordability Status of Families and Unrelated Individuals for a New Single-Family Home by Current Tenure, Type of Family, and Type of Financing: United States, 1988

(Numbers in thousands. Data may not add to total due to rounding)

Type of family/unrelated individual	Total			Current owners			Current renters		
	Total	Cannot afford median-priced new home in region		Total	Cannot afford median-priced new home in region		Total	Cannot afford median-priced new home in region	
		Number	Percent		Number	Percent		Number	Percent
USING CONVENTIONAL, FIXED-RATE, 30-YEAR FINANCING									
Total.....	100,593	69,161	68.8	62,914	33,301	52.9	37,678	35,860	95.2
Families.....	67,957	41,450	61.0	48,540	23,066	47.5	19,418	18,384	94.7
Married-couple families.....	52,445	28,023	53.4	40,588	17,059	42.0	11,857	10,964	92.5
With children under 18 years....	25,600	15,722	61.4	18,549	9,036	48.7	7,051	6,686	94.8
With no children under 18 years..	26,845	12,301	45.8	22,038	8,023	36.4	4,807	4,278	89.0
Male householder, no wife present.....	2,919	2,283	78.2	1,797	1,230	68.5	1,122	1,052	93.8
With children under 18 years....	1,258	1,059	84.1	777	601	77.4	481	457	95.1
With no children under 18 years..	1,661	1,224	73.7	1,020	629	61.7	641	595	92.8
Female householder, no husband present.....	12,593	11,144	88.5	6,155	4,777	77.6	6,438	6,367	98.9
With children under 18 years....	8,226	7,679	93.4	3,251	2,754	84.7	4,975	4,926	99.0
With no children under 18 years..	4,368	3,465	79.3	2,905	2,023	69.6	1,463	1,442	98.5
Unrelated individuals.....	32,636	27,711	84.9	14,374	10,234	71.2	18,261	17,477	95.7
Male.....	15,269	13,059	85.5	5,976	4,197	70.2	9,293	8,863	95.4
Female.....	17,366	14,652	84.4	8,398	6,038	71.9	8,968	8,614	96.1
USING FHA, FIXED-RATE, 30-YEAR FINANCING									
Total.....	100,593	67,918	67.5	62,914	32,400	51.5	37,678	35,518	94.3
Families.....	67,957	40,427	59.5	48,540	22,306	46.0	19,418	18,122	93.3
Married-couple families.....	52,445	27,103	51.7	40,588	16,382	40.4	11,857	10,722	90.4
With children under 18 years....	25,600	15,198	59.4	18,549	8,651	46.6	7,051	6,548	92.9
With no children under 18 years..	26,845	11,905	44.3	22,038	7,731	35.1	4,807	4,174	86.8
Male householder, no wife present.....	2,919	2,247	77.0	1,797	1,195	66.5	1,122	1,052	93.8
With children under 18 years....	1,258	1,050	83.4	777	592	76.2	481	457	95.1
With no children under 18 years..	1,661	1,197	72.1	1,020	602	59.0	641	595	92.8
Female householder, no husband present.....	12,593	11,077	88.0	6,155	4,729	76.8	6,438	6,348	98.6
With children under 18 years....	8,226	7,636	92.8	3,251	2,720	83.7	4,975	4,916	98.8
With no children under 18 years..	4,368	3,441	78.8	2,905	2,010	69.2	1,463	1,431	97.8
Unrelated individuals.....	32,636	27,491	84.2	14,374	10,094	70.2	18,261	17,396	95.3
Male.....	15,269	12,958	84.9	5,976	4,140	69.3	9,293	8,818	94.9
Female.....	17,366	14,533	83.7	8,398	5,955	70.9	8,968	8,578	95.6

Appendix A. Overview of the SIPP Program

BACKGROUND

The Survey of Income and Program Participation (SIPP) provides a major expansion in the kind and amount of information available to analyze the economic situation of households and persons in the United States. The information supplied by this survey is expected to provide a better understanding of the level and changes in the level of well-being of the population and of how economic situations are related to the demographic and social characteristics of individuals. The data collected in SIPP will be especially useful in studying Federal transfer programs, estimating program cost and effectiveness, and assessing the effect of proposed changes in program regulations and benefit levels. Analysis of other important national issues such as tax reform, Social Security program costs, and national health insurance can be expanded and refined, based on the information from this new survey.

The first interviews in the SIPP took place in October 1983, nearly 8 years after the research and developmental phase, the Income Survey Development Program (ISDP), was initiated by the Department of Health, Education, and Welfare, in 1975. Between 1975 and 1980 extensive research was undertaken to design and test new procedures for collecting income and related socioeconomic data on a subannual basis in a longitudinal framework. Much of the work centered around four experimental field tests that were conducted in collaboration with the Bureau of the Census to examine different concepts, procedures, questionnaires, and recall periods. Two of the tests were restricted to a small number of geographic sites; the other two were nationwide. In the first nationwide test, the 1978 Research Panel, approximately 2,000 households were interviewed. Because of the relatively small number of interviews, controlled experimental comparisons of alternatives were not possible; however, the panel did demonstrate that many new ideas and methods were feasible. It also laid a foundation for the largest and most complex test: the 1979 Research Panel. This panel consisted of a nationally representative sample of 8,200 households and provided a vehicle for feasibility tests and controlled experiments of alternative design features.

In the fall of 1981, virtually all funding for ISDP research and planning of the continuing SIPP program was deleted from the budget of the Social Security Administration. The loss of funding for fiscal year 1982

brought all work on the survey to a halt. In fiscal year 1983, however, money for initiation of the survey was allotted in the budget of the Bureau of the Census. Work began almost immediately in preparation for the survey start in October 1983. The design of the questionnaire for the first interview was similar in structure to that used in the 1979 ISDP panel study with two important exceptions. First, the reference period for the questions was extended from 3 months to 4 months in order to reduce the number of interviews and, therefore, lower costs. Second, the questions covering labor force activity were expanded in order to provide estimates that were closer, on a conceptual basis, to those derived from the Current Population Survey (CPS). The design also incorporated a number of other modifications resulting from experience with the 1979 pilot study.

SURVEY CONTENT

There are three basic elements contained in the overall design of the survey content. The first is a control card that serves several important functions. The control card is used to record basic social and demographic characteristics for each person in the household at the time of the initial interview. Because households are interviewed a total of eight or nine times, the card is also used to record changes in characteristics such as age, educational attainment, and marital status, and to record the dates when persons enter or leave the household. Finally, during each interview, information on each source of income received and the name of each job or business is transcribed to the card so that this information can be used in the updating process in subsequent interviews.

The second major element of the survey content is the core portion of the questionnaire. The core questions are repeated at each interview and cover labor force activity, the types and amounts of income received during the four-month reference period, and participation status in various programs. Some of the important elements of labor force activity are recorded separately for each week of the period. Income reciprocity and amounts are recorded on a monthly basis with the exception of amounts of property income (interest, dividends, rent, etc.). Data for these types of income are recorded as totals for the 4-month period. The core also contains questions covering attendance in postsecondary schools, private health insurance coverage, public

survey throughout the entire 2 1/2 year period. To meet this goal, the survey collects information useful in locating persons who move. In addition, field procedures were established that allow for the transfer of sample cases between regional offices. Persons moving within a 100-mile radius of an original sampling area (a county or group of counties) are followed and continue with the normal personal interviews at 4-month intervals. Those moving to a new residence that falls outside the 100-mile radius of any SIPP sampling area are interviewed by telephone. The geographic areas defined by these rules contain more than 95 percent of the U.S. population.

Because most types of analysis using SIPP data will be dependent not on data for individuals but on groups of individuals (households, families, etc.) provisions were made to interview all "new" persons living with original sample persons (those interviewed in the first wave). These new sample persons entering the survey through contact with original sample persons are considered as part of the sample only while residing with the original sample person.

Appendix B. Definitions and Explanations

Coverage. The estimates in this report are for total families and unrelated individuals in the 1987 SIPP Panel, Wave 4. Interviewing for wave 4 took place in February, March, April, and May of 1988.

Family. The term "family" refers to a group of two or more persons related by birth, marriage, or adoption who reside together. Every family must include a householder. A household may contain a primary family and one or more subfamilies.

Subfamily. A subfamily is a married couple with or without children, or one parent with one or more own single children under 18 years old living in a household but not including among its members the person or couple maintaining the household. There are two kinds of subfamilies, related and unrelated.

Related subfamily. A related subfamily is a subfamily whose members are related to the person or couple maintaining the household. The most common example of a related subfamily is a young married couple sharing the home of the husband's or wife's parents.

Unrelated subfamily. An unrelated subfamily is a subfamily whose members are not related to the person or couple maintaining the household. Members of unrelated subfamilies may include such persons as guests, lodgers, or resident employees and their relatives living in a household.

Count of families. In this report the count of total families is the number of primary families, plus related subfamilies, plus unrelated subfamilies. The breakdown by each group is:

- Total families = 67,957,000
- Primary families = 65,088,000
- Related subfamilies = 2,415,000
- Unrelated subfamilies = 454,000

Family status. Persons were classified as members of a married-couple family; a family with male householder, no wife present; a family with female householder, no husband present; or as unrelated individuals based on their most common status during the calendar year. For

example, a person who was in a married-couple family for 7 months but was an unrelated individual for 5 months was classified as being in a married-couple family.

Unrelated individuals. The term "unrelated individuals" refers to persons 15 years old or older who are not living with any relatives. An unrelated individual may (1) constitute a one-person household, or (2) be part of a household including one or more other families or unrelated individuals. Thus, a widow living by herself or with one or more other persons not related to her, a lodger not related to the householder or to anyone else in the household, or a servant living in an employer's household with no relatives are examples of unrelated individuals. The affordability status of unrelated individuals is determined independently of other household members.

Age of householder. The age of the householder is based on the householder's age at his/her last birthday as of December 31, 1987.

Race. Families and unrelated individuals are divided into three groups based on the race of the householder: White, Black, and "other races." The last category includes Native Americans, Japanese, Chinese, and any other race except White and Black.

Hispanic origin. Families and unrelated individuals are classified as Hispanic origin based on a question that asked for self-identification of the householder's origin or descent. Persons of Hispanic origin may be of any race.

Tenure. A family or unrelated individual is considered to be a "current owner" if the unrelated individual or a member of the family is an owner or co-owner of the unit in which they live, even if the unit is mortgaged or not fully paid for. A family or unrelated individual is a "current renter" if the individual or a member of the family is one of the persons who rents the unit. Subfamilies (both related and unrelated) are given the same tenure status as the primary family with whom they live.

Income. The income amounts represent amounts actually received during the month, before deductions for income and payroll taxes, union dues, Part B Medicare premiums, etc.

Appendix C. Methodology

CRITERIA FOR MEASURING AFFORDABILITY.

In this report, two primary approaches are used to provide a measure of homeownership affordability:

1. For each family and unrelated individual, calculations are made using data on income, assets, and debt to determine if the family or individual can afford to purchase the criterion home - either the median-priced home, a modestly priced home, or a new single-family home in the region where it lives.
2. For each family and unrelated individual, a calculation is made using data on income, assets, and debt to determine the maximum-priced home the family or individual can afford.

PRIMARY VARIABLES USED IN AFFORDABILITY CALCULATIONS.

The following key variables are used to calculate homeownership affordability:

Mortgage type. Affordability calculations are made using two types of mortgage loans: (1) conventional fixed rate 30 year loans; and (2) Federal Housing Administration (FHA) insured 30-year loans.

Interest rates. For conventional fixed rate 30-year loans the interest rate used is the average contract interest rate on loans closed for the months of February, March, April, and May 1988 determined from the Federal Housing Finance Board's (FHFB) Monthly Interest Rate Survey (MIRS). The rate for these loans was estimated at 9.79 percent. For FHA-insured loans, the rate used was 9.67 percent. This rate was determined based on an assessment that FHA-insured loans were approximately 12 basis points lower than conventional rates during the spring of 1988.

Value of home. Calculations are made for the median-priced home, a modestly priced home, and a new single-family home in each of the four census regions.

The median-priced home is the median value for a new or existing owner-occupied (non-mobile home) unit in a region based on value data collected in SIPP. The values used for each region were:

- Northeast = \$100,000

- Midwest = \$ 60,000
- South = \$ 60,000
- West = \$ 95,000

A modestly priced home is the value of a new or existing owner-occupied (non-mobile home) unit at the upper limit of the first quartile (lower one-quarter) of the cases in each region, from SIPP. The values used were:

- Northeast = \$60,000
- Midwest = \$40,000
- South = \$40,000
- West = \$65,000

The value of a new single-family home is the median value of new single-family home sales for the first and second quarter of 1988, from the Census Bureau's Survey of Construction.

- Northeast = \$145,000
- Midwest = \$104,000
- South = \$ 90,000
- West = \$124,000

Income. "Available" money family income is used in all the affordability calculations. It is the income of the husband and wife only in a married-couple family, and the male or female only in a family with a male or female householder. The income data were collected in the last month of the reference period and converted to an annual amount by multiplying by 12.

"Available" money family income includes income from:

- Wages, salaries, tips, bonuses, etc.
- Own business, farm, etc., after expenses
- Social Security payments
- U.S. Government Railroad Retirement pay
- Veterans compensation or pensions
- Black lung payments

percent for FHA-insured loans. For FHA-insured loans, 1 point—the discount point—must be paid “up-front.” The other point—the loan origination fee—can be financed.

Down payment. The down payment is the cash portion of the price of the house that the buyer must pay from his/her own funds. The minimum down payment needed for conventional loans is 5 percent of the purchase price of the home and the amount cannot be financed.

For FHA-insured loans, the administrative part of the closing costs and the loan origination fee are added to the purchase price of the home to derive “total acquisition costs.” The homebuyer is required to pay 3 percent of the first \$25,000 of the total acquisition costs and 5 percent of the amount over \$25,000.

Assets. Assets include all cash available in savings accounts, money market deposit accounts, certificates of deposit, money market funds, government securities, bonds, checking accounts and the net value of stock and mutual funds. The net value of stock is the gross asset value of the stock portfolio minus the amount borrowed on stocks in a margin account.

Assets also include the net equity available, after selling costs and discounts are subtracted, in rental income property owned, non-rental income property owned, debt owed from businesses owned, and mortgages owned; as well as the equity available in any currently owned home. The following discounts were applied:

- Equity in owned home and from sale of rental income property (10 percent) - Typical selling costs include brokerage fees of 7 percent and fix-up and transfer costs of 3 percent.
- Non-rental income property (15 percent) - This includes property such as vacation homes and undeveloped lots. Typical selling costs include brokerage fees of 10 percent and fix-up and transfer costs of 5 percent.
- Owned mortgages and debt from the sale of owned businesses (25 percent) - Both of these are debt instruments that are not very liquid. Typically they are sold to investors who require high rates of return on their investments.

Debts. Debt is the amount owed on credit cards, automobile loans, bank loans, outstanding home mortgages, and all other loans.

Total allowable debt. Under Federal National Mortgage Association (FNMA) guidelines for a conventional loan, total allowable debt for a family or unrelated individual is 8 percent of “available” monthly family income for consumer debt and 28 percent for mortgage

debt. For an FHA-insured loan, the total allowable debt is 41 percent for consumer and mortgage debt, with a maximum of 29 percent allowed for mortgage debt.

Total monthly payment on outstanding debts. Monthly debt payments are estimated at 3 percent of total outstanding debt (2 percent principal, 1 percent interest), the minimum payment required of consumers.

Excess debt. A family or unrelated individual has excess debt if the monthly payment on outstanding debts is greater than the total allowable debt. This excess debt must be paid down to the total allowable debt level using available cash in order to qualify for a mortgage.

CALCULATION TO DETERMINE AFFORDABILITY LEVEL VERSUS CRITERION HOME IN REGION

There are two principal determinants of whether a family or unrelated individual can afford a criterion home: (1) does it have the necessary cash available to pay the minimum down payment, closing costs, excess debt, if any, and fees and charges associated with purchasing the home; and (2) after all available cash has been exhausted, does it have the necessary income needed to make the required monthly mortgage payments. If the answer to either question is “no,” then it cannot afford the criterion home.

Conventional loans. The following specific steps go into the calculation of homeownership affordability for each family or unrelated individual for conventional loans:

1. Total “available” money family income, assets (transformed into available cash), debt level, and excess debt, if any, are determined.
2. If there is excess consumer debt (over 8 percent of “available” monthly family income), the excess debt is paid down using available cash. If the available cash is not enough to pay the excess debt down to an acceptable level, the family or unrelated individual is not able to afford the criterion home.
3. The total amount needed for the minimum down payment, closing costs, fees and charges (including points) on the criterion home is determined. This amount is compared to the total remaining available cash (after any excess debt was paid down). If the available cash is not equal to or greater than the amount required, the family or unrelated individual is not able to afford the criterion home.
4. Any available cash still remaining is added to the minimum down payment to reduce the amount of the criterion home that has to be financed.

Appendix D. Data Quality

Two major determinants of the quality of data collected in household surveys are the magnitude of missing responses and the accuracy of the responses that are provided. This appendix provides information about the imputation process for nonresponse cases and provides a comparison of selected items with independent estimates.

Nonresponse in this discussion refers to missing responses to specific questions or "items" on the questionnaire. Noninterviews or complete failure to obtain cooperation from any household member have not been considered in this discussion of nonresponses. Adjustments to account for noninterview are made by proportionally increasing the survey weights of interviewed households. Missing responses to specific questions are assigned a value in the imputation phase of the data processing operation.

Nonresponse is an important factor in assessing the quality of survey data. Nonresponse occurs when respondents do not answer questions because of a lack of knowledge or a refusal to answer. Nonresponses are assigned values prior to producing estimates from the survey data. The procedure used to assign or impute most responses for missing data for SIPP are of a type commonly referred to as a "hot deck" imputation method. This process assigns values reported in the survey by respondents to nonrespondents. The respondent for whom the value is taken is termed the "donor." Values from donors are assigned by controlling for demographic and economic data available for both donors and nonrespondents. For example, for every asset and liability item, there was a common set of characteristics used in the imputation process. These included the age, race, sex, and years of schooling of the person, and total household income during the four month reference period. For other items, additional characteristics were used in the imputation process. For example, the imputation of the current market value of own home used the common set of characteristics listed above plus the original purchase price of the home.

A second important determinant of data quality is the accuracy of reported and imputed amounts. Response errors are the result of a variety of factors including random response error, misreporting or failure to report asset ownership, misreporting of asset and liability values, and misreporting of the sources of income and

the full amount received. In general, household surveys have a tendency to underestimate the number of persons receiving income and the average amount received.

The extent of response error is measured by comparing survey estimates with independently derived estimates. A comparison of SIPP aggregate asset amount in 1988 with estimates derived from the Flow of Funds data of the Federal Reserve Board (FRB) is shown in table D-1. The Flow of Funds Balance Sheet data provides estimates as of the end of the year.

Table D-1. **Comparison of SIPP Asset and Liability Estimates and Federal Reserve Board Balance Sheet Data for the Household Sector: 1988**

(Data in billions of dollars)

Category	1988		Ratio of SIPP to FRB balance sheet
	FRB balance sheet	SIPP	
A. Equity in owner-occupied housing			
Gross value	\$3,042.1	\$3,626.6	1.19
Debt	5,180.6	5,235.0	1.01
B. Equity in motor vehicles	2,138.5	1,606.4	0.75
Gross value	424.3	490.3	1.16
Debt	708.9	741.0	1.05
C. Equity in noncorporate business	284.6	250.7	0.88
Rental property	2,410.7	1,764.9	0.73
Other business property	(NA)	1,025.9	(NA)
D. Financial assets	(NA)	739.0	(NA)
1. Interest-earning assets ¹	5,753.5	3,813.2	0.66
2. Corporate equities ²	4,348.5	2,432.5	0.56
3. Other financial assets ³	2,171.4	1,114.2	0.51
4. Less: Financial assets held by nonprofit sector or in personal trusts	176.6	266.5	1.51
E. Installment and other consumer debt ⁴	(943.0)	X	X
F. Net worth (A+B+C+D-E)	409.1	245.8	0.60
	11,221.5	9,451.2	0.84

NA Separate estimates not available. X Not applicable.

¹Includes passbook savings accounts, money market deposits, certificates of deposit checking accounts, money market funds, U.S. Government securities, municipal or corporate bonds, savings bonds, IRA and KEOGH accounts, and other interest-earning assets.

²Includes equities in stocks, mutual fund shares, and incorporated self-employed businesses or professions.

³Includes mortgages held by sellers and other financial assets not otherwise specified.

⁴Excludes debt for automobile and mobile homes.

Appendix E. Source and Accuracy of the Estimates

SOURCE OF DATA

The SIPP universe is the noninstitutionalized resident population living in the United States. This population includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings. Crew members of merchant vessels, Armed Forces personnel living in military barracks, and institutionalized persons, such as correctional facility inmates and nursing home residents, were not eligible to be in the survey. Also, United States citizens residing abroad were not eligible to be in the survey. Foreign visitors who work or attend school in this country and their families were eligible; all others were not eligible. With the exceptions noted above, persons who were at least 15 years of age at the time of the interview were eligible to be interviewed in the survey.

The 1987 panel SIPP sample is located in 230 primary sampling units (PSU's), each consisting of a county or a group of contiguous counties. Within these PSU's, expected clusters of two living quarters were systematically selected from lists of addresses prepared for the 1980 decennial census to form the bulk of the sample. To account for living quarters built within each of the sample areas after the 1980 census, a sample containing clusters of four living quarters was drawn from permits issued for construction of residential living quarters up until shortly before the beginning of the panel.

In jurisdictions that don't issue building permits or have incomplete addresses, small land areas were sampled and expected clusters of four living quarters within were listed by field personnel and then subsampled. In addition, sample living quarters were selected from a supplemental frame that included living quarters identified as missed in the 1980 census.

The first interview was conducted during February, March, April, and May of 1987. Approximately one-fourth of the sample was interviewed in each of these months. Each sample person was visited every 4 months thereafter. At each interview the reference period was the 4 months preceding the interview month.

Information about the number of living quarters that participated in the SIPP panel is found in the following table.

Table E-1. Original Living Quarters and Interview Status After Wave 1 Interview

Panel	Sampled	Eligible ¹	Interviews obtained	Refused; not at home, unavailable
87	16,700	12,500	11,700	800

¹The remaining living quarters for each panel were found to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey.

Therefore, occupants of about 93 percent of all eligible living quarters participated in the first interview of each panel.

For subsequent interviews, only original sample persons (those in Wave 1 sample households and interviewed in Wave 1 (and/or 2 for the 1985 panel)) and persons living with them were eligible to be interviewed. Original sample persons were followed if they moved to a new address, unless the new address was more than 100 miles from a SIPP sample area. Then, telephone interviews were attempted. All first-wave noninterviewed households were automatically designated as noninterviews for all subsequent interviews. When original sample persons moved to remote parts of the country, moved without leaving a forwarding address, or refused to be interviewed, additional noninterviews resulted.

As a part of most waves, subjects are covered that do not require repeated measurement during the panel and are of particular interest cross-sectionally for research purposes. A specific set of topical questions is referred to as a topical module. For this report, the topical module analyzed includes questions on assets and liabilities. It was implemented in Wave 4 of the 1987 panel.

Noninterviews. Tabulations in this report were drawn from interviews conducted from February through May 1988. Table E-2 summarizes information on nonresponse for the interview months in which the data used to produce this report were collected.

Some respondents do not respond to some of the questions. Therefore, the overall nonresponse rate for some items such as income and money related items is higher than the nonresponse rates in table E-2.

variations that occurred by chance because a sample rather than the entire population was surveyed.

USES AND COMPUTATION OF STANDARD ERRORS

Confidence intervals. 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 conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then:

- a. 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.
- b. 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.
- c. 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.

Hypothesis testing. Standard errors may also be used for hypothesis testing, a procedure for distinguishing between population characteristics using sample estimates. The most common types of hypotheses tested are 1) the population characteristics are identical versus 2) they are different. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

All statements of comparison in the report have passed a hypothesis test at the 0.10 level of significance or better. This means that, for differences cited in the report, the estimated absolute difference between parameters is greater than 1.6 times the standard error of the difference.

To perform the most common test, compute the difference $X_A - X_B$, where X_A and X_B are sample estimates of the characteristics of interest. A later section explains how to derive an estimate of the standard error of the difference $X_A - X_B$. Let that standard error be S_{DIFF} . If $X_A - X_B$ is

between -1.6 times S_{DIFF} and $+1.6$ times S_{DIFF} , no conclusion about the characteristics is justified at the 10-percent significance level. If, on the other hand, $X_A - X_B$ is smaller than -1.6 times S_{DIFF} or larger than $+1.6$ times S_{DIFF} , the observed difference is significant at the 10-percent level. In this event, it is commonly accepted practice to say that the characteristics are different. Of course, sometimes this conclusion will be wrong. When the characteristics are, in fact, the same, there is a 10-percent chance of concluding that they are different.

Note that as more tests are performed, more erroneous significant differences will occur. For example, at the 10-percent significance level, if 100 independent hypothesis tests are performed in which there are no real differences, it is likely that about 10 erroneous differences will occur. Therefore, the significance of any single test should be interpreted cautiously.

Note concerning small estimates and small differences. Summary measures are shown in the report only when the base is 200,000 or greater. Because of the large standard errors involved, there is little chance that estimates will reveal useful information when computed on a base smaller than 200,000. Also, nonsampling error in one or more of the small number of cases providing the estimate can cause large relative error in that particular estimate. 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. Therefore, care must be taken in the interpretation of small differences since even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard error parameters and tables and their use.

Most Most SIPP estimates have greater standard errors than those obtained through a simple random sample because clusters of living quarters are sampled for the SIPP. To derive standard errors that would be applicable to a wide variety of estimates and could be prepared at a moderate cost, a number of approximations were required. Estimates with similar standard error behavior were grouped together and two parameters (denoted "a" and "b") were developed to approximate the standard error behavior of each group of estimates. Because the actual standard error behavior was not identical for all estimates within a group, the standard errors computed from these parameters provide an indication of the order of magnitude of the standard error for any specific estimate. These "a" and "b" parameters vary by characteristic and by demographic subgroup to which the estimate applies. Table E-3 provides base "a" and "b" parameters to be used for Wave 4 1987 panel estimates.

where p is the percentage of persons/families/households with a particular characteristic such as the percent of households owning their own homes.

In this formula, f is the appropriate "f" factor from table E-3, and s is the standard error of the estimate obtained by interpolation from table E-5.

Alternatively, it may be approximated by the formula:

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

from which the standard errors in table E-5 were calculated. Here x is the total number of persons, families, households, or unrelated individuals in the base of the percentage, p is the percentage ($0 \leq p \leq 100$), and b is the "b" parameter in table E-3 associated with the characteristic in the numerator of the percentage. Use of this formula will give more accurate results than use of formula (3) above and should be used when data from less than four rotations are used to estimate p .

Illustration. Suppose that SIPP estimates that 60 percent of Black married-couple families cannot afford a median-priced home in the region where they live. The base for this percentage is 3,700,000. The appropriate "b" parameter and "f" factor from table E-3 and the appropriate general standard error found by interpolation from table E-5 are

$$b = 7,340, f = 0.83, s = 2.4 \text{ percent}$$

Using formula (3), the approximate standard error is

$$0.83 \times 2.4 = 2.0 \text{ percent}$$

Using formula (4), the approximate standard error is

$$\sqrt{\frac{7,340}{3,700,000} 60 (100-60)} = 2.2 \text{ percent}$$

The 90-percent confidence interval as shown is from 56 to 64 percent. Therefore, a conclusion that the average percentage derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all samples.

Standard error of a median. The median quantity of some item such as income for a given group of persons, families, or households is that quantity such that at least half the group have as much or more and at least half the group have as much or less. The sampling variability of an estimated median depends upon the form of the distribution of the item as well as the size of the group. To calculate standard errors on medians, the procedure described below may be used.

Note that the standard errors for all median values displayed in detailed tables are usually provided immediately next to the medians. However, if the reader desires to calculate standard errors on medians for collapsed groups, the procedure described below may be used. Also note that the medians and their standard errors given in detailed tables will be somewhat different from those calculated using this method since more interval breaks were used than shown.

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 either formula 3 or formula 4, the standard error of an estimate of 50 percent of the group;
2. Add to and subtract from 50 percent the standard error determined in step 1;
3. Using the distribution of the item within the group, calculate the quantity of the item such that the percent of the group owning more is equal to the smaller percentage found in step 2. This quantity will be the upper limit for the 68-percent confidence interval. In a similar fashion, calculate the quantity of the item such that the percent of the group owning more is equal to the larger percentage found in step 2. This quantity will be the lower limit for the 68-percent confidence interval;
4. Divide the difference between the two quantities determined in step 3 by two to obtain the standard error of the median. To perform step 3, it will be necessary to interpolate. Different methods of interpolation may be used. The most common are simple linear interpolation and Pareto interpolation. The appropriateness of the method depends on the form of the distribution around the median. If density is declining in the area, then we recommend Pareto interpolation. If density is fairly constant in the area, then we recommend linear interpolation. Note, however, that Pareto interpolation can never be used if the interval contains zero or negative measures of the item of interest. Interpolation is used as follows. The quantity of the item such that "p" percent own more is

$$X_{pN} = \exp \left[\left(\frac{\ln \left(\frac{pN}{N_1} \right)}{\ln \left(\frac{N_2}{N_1} \right)} \right) \ln \left(\frac{A_2}{A_1} \right) \right] A_1 \quad (5)$$

if Pareto interpolation is indicated and

$$X_{pN} = \left[\frac{pN - N_1}{N_2 - N_1} (A_2 - A_1) + A_1 \right] \quad (6)$$

Table E-6. Distribution of "Available" Money Family Income

Item	Total	No income loss	\$1 to \$4,999	\$5,000 to \$9,000	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$24,999	\$25,000 to \$29,999	\$30,000 to \$34,999	\$35,000 to \$39,999	\$40,000 to \$44,999	\$45,000 to \$49,999	\$50,000 to \$59,999	\$60,000 and over
Thousands in interval .	67,957	4,759	2,741	5,790	7,395	7,944	6,888	5,692	5,318	4,822	3,480	3,250	3,730	6,148
Percent with at least as much as lower bound of interval		100	93.0	89.0	80.4	69.6	57.9	47.7	39.4	31.5	24.4	19.3	14.5	9.0