CURRENT POPULATION REPORTS

Population Estimates and Projections

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Series P-25, No. 986

Projections of the Number of Households and Families: 1986 to 2000

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Contents

Projections of the Number of Households and Families: 1986 to 2000

This report presents projections of the number of households and families for the years 1986 to 2000. Three series (Series A, B, and C) are presented on the number of households by type and by age of householder. The average size of households and families is presented for the year 2000.

These projections of households are illustrative; that is, they are designed to indicate the number of households which would result from applying certain assumptions about future rates of household formation and population change. (For further discussion, see section on methods and assumptions. The appendix presents an experimental set of illustrative economic model-based results.) Projections in this report supersede prior projections in Current Population Reports, Series P-25, No. 805 (May 1979).

The tables show estimates for various dates based on current surveys of the Census Bureau for comparison with the projections. Since the survey data are based on samples of the population, they are subject to sampling error. For estimates of the sampling error of the survey data, see Current Population Reports, Series P-20, No. 398.

The increase in the number of households (occupied housing units) which may occur by 2000 is not necessarily identical with the volume of housing construction which may take place during this period. The number of housing units constructed is likely to differ from the increase in the number of households because of changes in the number of vacant units, the demolition of existing units, and conversions or mergers of units in existing structures.

Table A. Estimated Numbers of Households From 1930 to 1985, and Projections From 1990 to 2000

(In thousands)

Year	Number of households		
	Series A	Series B	Series C
Census:			
1930 (April 1)		29,905	
1940 (April 1)		34,949	
Current Population Survey:			
1950 (March 1)		43,554	
1960 (March 1)		52,799	
1970 (March 1)		63,401	
1980 (March 1)		80,776	
1985 (March 1)		86,789	
Projections:			
1990 (July 1)	95,243	94,227	93,297
1995 (July 1)	102,785	100,308	98,180
2000 (July 1)	110,217	105,933	102,440

Year	Average annual increase over preceding date		
	Series A	Series B	Series C
Census:			
1930 (April 1)		[1]542	
1940 (April 1)		504	
Current Population Survey:			
1950 (March 1)		868	
1960 (March 1)		[2]904	
1970 (March 1)		1,060	
1980 (March 1)		1,738	
1985 (March 1)		1,203	
Projections:			
1990 (July 1)	1,586	1,395	1,221
1995 (July 1)	1,508	1,216	977
2000 (July 1)	1,486	1,125	852

[1]Average annual increase between 1920 and 1930.
[2]Excludes increase in the number of households attributable to the addition of Alaska and Hawaii to the United States.

INCREASE IN THE NUMBER OF HOUSEHOLDS

According to the highest series of household projections (Series A), the number of households in the United States would reach 110.2 million by July 1, 2000—an increase of 23.4 million households over the 86.8 million in March 1985 (table A). The lowest series (Series C) indicates that there would be 102.4 million households in 2000 or an increase of 15.7 million households. These two series of projections show increases of 27 and 18 percent, respectively, over the 1985-2000 period.

The number of households in the United States showed an average annual increase of 1.2 million between 1980 and 1985. Between 1985 and 1990, the average annual increase may range from 1.2 to 1.6 million (table A). The highest average annual increase in the number of households for future periods, on a 5-year basis, is seen in projection Series A, which shows a gain of 1.6 million per year in the 1985-90 period. The lowest average annual increase for future 5-year periods is given by Series C which shows an increase of only 0.9 million per year for the 1995-2000 period. Each series of projections implies a decline in the annual rate of increase of households over the next 15 years.

AVERAGE SIZE OF HOUSEHOLDS AND FAMILIES

In March 1985, the average number of persons per household was 2.69, and the average per family was 3.23. Table B shows projections of the average size of households and families for the year 2000. The average household size for the year 2000 ranges from 2.32 (household Series A in combination with the low population projection series) to 2.64 (household Series C in combination with the high population projection series). Average family size ranges from 2.96 to 3.17.

Table B. Estimates of Average Size of Household and Family from 1970 to 1985, and Projections for 2000

Type	Current Population Survey			Year 2000 projections								
				Household series A			Household series B			Household series C		
	1970	1980	1985	Low population series	Middle population series	High population series	Low population series	Middle population series	High population series	Low population series	Middle population series	High population series
Average number of persons per household:												
All persons	3.14	2.76	2.69	2.32	2.38	2.45	2.41	2.48	2.55	2.49	2.56	2.64
Under 18 years	1.09	0.79	0.72	0.54	0.61	0.68	0.56	0.63	0.70	0.58	0.66	0.73
18 years and over	2.05	1.97	1.97	1.77	1.77	1.77	1.85	1.85	1.85	1.91	1.91	1.91
Average number of persons per family:												
All persons	3.58	3.29	3.23	2.96	3.06	3.17	2.97	3.07	3.17	2.96	3.06	3.16
Under 18 years	1.34	1.05	0.98	0.84	0.95	1.05	0.82	0.92	1.02	0.79	0.89	0.99
18 years and over	2.25	2.23	2.24	2.11	2.11	2.11	2.15	2.15	2.15	2.17	2.17	2.17

HOUSEHOLDS BY TYPE

Husband-wife households made up about 58 percent of all households in 1985 (table C). In the projections for the year 2000, husband-wife households range from 47 percent of all households (Series A) to 59 percent (Series C). Households consisting of a person living alone or householders living with persons to whom they are not related (nonfamily households) accounted for 28 percent of all households in 1985; in 2000, the number of nonfamily households is expected to range from 27 percent of all households (Series C) to 37 percent (Series A). At the present time, about nine-tenths of all nonfamily households are one-person households.

Nonfamily households would constitute about one-third of all households in 2000, but they would account for between about 25 percent (Series C) and 69 percent (Series A) of the total increase in households for the 1985-2000 period. However, husband-wife households would constitute from about one-half to three-fifths of all households in 2000, whereas the increase in the number of husband-wife households between 1985 and 2000 would constitute from 8 percent (Series A) to 62 percent (Series C) of the total increase.

HOUSEHOLDS BY AGE OF HOUSEHOLDER

From 1980 to 1985, much of the increase in the number of households was concentrated within two age groups: households with the householder 35 to 44 years of age (58 percent of the total growth) and households with householders 65 years and over (27 percent). The increase in households with a householder 65 years old and over is largely a function of the increase in the number of aged persons and the tendency for more elderly persons to continue to maintain their own homes after their families have dissolved (usually because of spouse's death). The increase in households with householders 35 to 44 years old in the 1980-85 period reflects the post-World War II "baby boom," the oldest members of which reached their late 30's by 1985. Over the next 15 years, the aging of the baby-boom cohorts will cause the major portion of the projected increase in the number of households from 1985 to 2000 to occur for households with householders between the ages of 35 and 54 (table F).

Table C. Estimated Percent Distribution of Households, by Type, for 1985, and Projections to 1990, 1995, and 2000

Series and period		Family households				Nonfamily households		
				Other family				
	All households	Total	Married-couple	Male householder	Female householder	Total	Male householder	Female householder
Current Population Survey:								
1985	100.0	72.3	58.0	2.6	11.7	27.7	11.7	16.1
Projection series A:								
1990	100.0	69.3	54.3	2.9	12.1	30.7	13.7	17.1
1995	100.0	66.4	50.8	3.2	12.4	33.6	15.7	18.0
2000	100.0	63.5	47.4	3.5	12.6	36.5	17.7	18.8
Projection series B:								
1990	100.0	70.8	56.3	2.7	11.8	29.2	12.7	16.5
1995	100.0	69.6	54.7	2.9	11.9	30.4	13.6	16.8
2000	100.0	68.2	53.1	3.1	12.0	31.8	14.6	17.2
Projection series C:								
1990	100.0	72.4	58.2	2.6	11.6	27.6	11.7	15.9
1995	100.0	72.6	58.5	2.7	11.4	27.4	11.7	15.7
2000	100.0	72.7	58.6	2.8	11.2	27.3	11.7	15.6

Table D. Percent Distribution of Projected Total Increase in Number of Households, by Type, for 1985-90, 1995, and 2000

Series and period	All households	Family households				Nonfamily households		
		Total	Married-couple	Other family: Male householder	Other family: Female householder	Total	Male householder	Female householder
Projection series A:								
1990	100.0	38.5	16.0	5.9	16.7	61.5	34.2	27.2
1995	100.0	34.5	11.4	6.6	16.5	65.5	37.4	28.1
2000	100.0	31.2	8.2	6.9	16.2	68.8	39.9	28.8
Projection series B:								
1990	100.0	54.5	35.8	4.7	13.9	45.5	24.6	20.9
1995	100.0	52.4	33.4	5.3	13.7	47.6	26.3	21.3
2000	100.0	50.0	31.0	5.5	13.4	50.0	27.9	22.1
Projection series C:								
1990	100.0	74.2	60.4	3.5	10.3	25.8	12.8	13.0
1995	100.0	75.4	62.0	3.9	9.6	24.6	12.1	12.5
2000	100.0	75.0	62.2	4.0	8.9	25.0	12.0	13.0

Table E. Annual Projection of Number and Increase of Households from 1986 to 2000

(Numbers in thousands)

Year	Number			Increase over preceding year					
				Series A		Series B		Series C	
	Series A	Series B	Series C	Number	Percent	Number	Percent	Number	Percent
1986	88,785	88,620	88,458	[1]1,636	1.9	[1]1,471	1.7	[1]1,309	1.5
1987	90,382	90,033	89,697	1,597	1.8	1,413	1.6	1,239	1.4
1988	91,987	91,434	90,912	1,605	1.8	1,401	1.6	1,215	1.4
1989	93,622	92,847	92,126	1,635	1.8	1,413	1.5	1,214	1.3
1990	95,243	94,227	93,297	1,621	1.7	1,380	1.5	1,171	1.3
1991	96,828	95,555	94,406	1,585	1.7	1,328	1.4	1,109	1.2
1992	98,316	96,769	95,392	1,488	1.5	1,214	1.3	986	1.0
1993	99,786	97,946	96,329	1,470	1.5	1,177	1.2	937	1.0
1994	101,261	99,111	97,243	1,475	1.5	1,165	1.2	914	0.9
1995	102,785	100,308	98,180	1,524	1.5	1,197	1.2	937	1.0
1996	104,290	101,475	99,082	1,505	1.5	1,167	1.2	902	0.9
1997	105,749	102,585	99,924	1,459	1.4	1,110	1.1	842	0.8
1998	107,202	103,680	100,748	1,453	1.4	1,095	1.1	824	0.8
1999	108,672	104,776	101,568	1,470	1.4	1,096	1.1	820	0.8
2000	110,217	105,933	102,440	1,545	1.4	1,157	1.1	872	0.9

[1] Increase based on an estimate for July 1, 1985, based on the March 1985 Current Population Survey.

Table F. Estimated Average Annual Increase in Households, by Age of Householder From 1980 to 1985, and Projections From 1985 to 1990, 1990 to 1995, and 1995 to 2000

(In thousands. Reference date is July 1, except as noted. Minus sign (-) denotes net decrease)

Period and series	Total, all ages	Age of householder (years)					
		Under 25	25-34	35-44	45-54	55-64	65 and over
1980 to 1985[1] ...	1,203	-226	302	700	-5	110	322
Series A:							
1985 to 1990..	1,586	-137	259	774	379	-137	447
1990 to 1995..	1,508	-43	-185	637	794	-13	319
1995 to 2000..	1,486	78	-309	402	818	334	164
Series B:							
1985 to 1990..	1,395	-145	219	706	338	-143	420
1990 to 1995..	1,216	-69	-195	534	677	-16	297
1995 to 2000..	1,125	25	-385	285	714	334	152
Series C:							
1985 to 1990..	1,221	-147	188	641	299	-150	390
1990 to 1995..	977	-78	-291	444	658	-21	265
1995 to 2000..	852	7	-421	186	629	328	123

[1] Period is from March 1 to March 1.

METHODS AND ASSUMPTIONS

Population. The projections of the number of households and families and the adult population in households and families shown in this report are based on the middle population projection series that was published in Current Population Reports, Series P-25, No. 952 (May 1984). For the calculation of the average household and family size for the year 2000, the low, middle, and high population projection series were used for the population under 18 years old.

The population projections used in preparing the projections of households shown in this report include members of the Armed Forces in the United States living off post or with their families on post, and exclude members of the Armed Forces abroad and members of the Armed Forces living in the United States in military barracks and similar quarters. To derive this population, the number of Armed Forces (residing in the United States and abroad) for July 1, 1982, (as was used in Series P-25, No. 952) was subtracted from the total population for all years of the projection period, and the number of Armed

Forces included in the Current Population Survey (CPS) for March 1, 1985, was added back in for all years of the projection period. This calculation was carried out before the specific calculations to develop projections of the number of households.

Current Population Survey data for 1959 through 1985 were utilized in preparing the marital status and householder proportions used in these projections. In order to make the data comparable for all years, the category "secondary families in group quarters" had to be modified for some years. Prior to 1968, related persons living in group quarters were considered as members of secondary families. However, the number of such families became so small that, beginning with CPS data in 1968, persons in these families were included in the count of secondary individuals. Therefore, before any marital status or householder proportions were developed from the survey data for the years 1959 to 1967, secondary family members in group quarters were designated secondary individuals in group quarters.

The population used in preparing the household projections also includes estimates of inmates of institutions. The number of inmates implied in the projections of population were estimated by applying age- and sex-specific proportions of inmates, developed from 1980 census data, to the projected population. These proportions of inmates were thus assumed to remain constant after April 1, 1980. It was decided to include inmates in the projections; they had been included in the CPS prior to 1972, but not between 1972 and 1985. In order to provide a comparable series of data for use in making the projections, the number of inmates (estimated as described above) and the distribution of inmates by age and marital status (developed by using data from the 1980 census) was estimated for 1972 through 1985 and added into the CPS population.

Also, to provide a series of data consistent through time, the adult universe (i.e., population of marriageable age) in these projections is considered to be 14 years old and over (the definition prior to 1980).

Marital status and household projections. The next stage in the preparation of the projections of households and families was to project the proportions of persons in two marital status groups (never married and ever married) and the proportions of persons who are householders and of persons in other relevant categories of household relationship and family status.

The data used for projecting the proportions were the CPS data on the age, sex, marital status, and householder status distributions of the population for March 1 of each year from 1959 through 1985. Ten age groups and 13 sex-marital-householder status groups were distinguished, resulting in 130 time series of proportions to project. Alternative projections thought to cover a reasonable range of possibilities (Series A, B, and C) were developed for each of the 130 series using a combination of demographic assumptions and statistical time series model results. These assumptions and models are discussed in the next two sections.[1]

Demographic assumptions. Series A, B, and C were selected for publication through demographic research involving the preparation and examination of seven different series of projections. Series A, B, and C were selected to provide a diverse range of projections by evaluating the demographic plausibility of results in light of past and possible future trends in household formation.

Past trends in household formation have been influenced by various demographic factors including the following. First, the proportion of young adults maintaining their own households has increased as a result of increases in the proportion who have never married and in the proportion who were married but then experienced a divorce. Second, the proportion of young and middle-aged adults living in married-couple households has declined as a result of increases in the proportion who have never married and increases in the proportion who experienced a divorce after marriage. Third, the proportion of elderly adults maintaining their own households has increased as a result of an increasing propensity to not live with younger family members, and an increasing differential between the mortality of men and women. Fourth, since the very large baby-boom cohorts were moving into the young and early middle adult ages where marriage was increasingly postponed and where divorce was especially likely, changes in the age composition of the population tended to accentuate the effects of change in marriage and divorce.

Shifts appear to be occurring in several of these demographic trends, however. First, during the coming years the baby-boom cohorts will pass through young adulthood to reach ages in which marriage is more prevalent and divorce less prevalent. As a result, the aging of the baby boom may produce a decline in the rate of increase in households during the next 15 years for the population as a whole. Furthermore, although the divorce rate (divorces per 1,000 married women 15 years of age and over) rose rapidly, and without interruption, from 9.4 in 1962 to 22.8 in 1979, the rate has recently fallen from the 1979 peak to 21.3 in 1983, suggesting that the divorce rate may in the future rise more slowly, remain unchanged, or perhaps decline.[2] Third, the propensity of young adults to live in the homes maintained by their parents has increased between 1980 and 1984. Fourth, at least for men in the young adult ages, the proportion never married rose more slowly between 1980-84 than between 1970-80. If the moderation in past rates of change in divorce, marriage, and living arrangements continues, the result will be a slowing in the rate of increase in the formation of households.[3]

[1]For a more detailed discussion of the time series modeling of the data, readers may obtain a copy of the following report: William Bell, James Bozik, Sandra McKenzie, and Holly Shulman (1986) *Time Series Analysis of Household Headship Proportions: 1959-1985*, SRD Research Report Census/SRD/RR-86/01, Statistical Research Division, Bureau of the Census.

[2]National Center for Health Statistics, *Monthly Vital Statistics Report*, Vol. 34, No. 9, Supplement, December 1985, "Advance Report of Final Divorce Statistics, 1983."

[3]U.S. Census Bureau, Current Population Reports, Series P-20, No. 399 *Marital Status and Living Arrangements: March 1984.*

In the past, rapid changes in population composition and marriage and divorce have led to rapid increases in the number of households, but current changes in these trends suggest that the number of households may grow more slowly in the future. Since the aging of the baby boom is inevitable, all the projections series examined for this report take into account projected age structure changes. In addition, Series A was developed to reflect the demographic assumption that the recent moderation in marriage and divorce trends will continue but that historical changes spanning the last two and one-half decades must be taken into consideration. Hence, Series A assumes a continuation of past trends in householder proportions but changes in recent years are given more weight. Consequently, Series A projects a somewhat slower but still rapid increase in the number of households. At the other extreme, Series C was developed to reflect the demographic assumption that the era of rapid change in marriage and divorce may have come to an end, and consequently that householder proportions will remain constant during the next 15 years. Finally, Series B was developed to reflect assumptions intermediate between the assumptions of Series A and C, namely that changes in marriage and divorce will slow considerably but not cease during the next 15 years.

More specifically, Series C was selected from three models which assumed no change in householder proportions based on (1) householder proportions in 1985, (2) mean householder proportions for 1981-85, and (3) mean householder proportions for 1976-85. Since the results from the three approaches were quite similar, the simplest one based on 1985 proportions was selected for Series C. Reflecting the consequences of projected change in the age structure only, Series C provided one basis for the evaluation of additional series. Series A was selected by evaluating the results from three types of models: (1) the model ultimately adopted, as described in the statistical methods section, (2) a random walk with trend model, and (3) a model similar to the one used in the previous set of household projections (Current Population Reports, Series P-25, No. 805, *Projections of the Number of Households and Families: 1979 to 1995)* which involved producing target forecasts based on a linear regression on time with logistically transformed data and interpolation from the last data point to the target. Results concerning projected numbers of households and projected distributions of households by type were examined, and Series A as described in the next section was selected, because it best reflected the demographic assumption that underlying trends will moderate during the next 15 years, but that they will neither reverse direction nor achieve constancy. As noted above, Series B was then developed as a middle series to reflect demographic assumptions intermediate between the assumptions of Series A and C.

The demographic assumptions described here provide the basis for a plausible range of household projections. These projections are designed, as described above, to be illustrative of possible long-term changes; they are not intended to be predictions or forecasts of the future. A general war, some other catastrophe, or large unexpected changes in underlying demographic trends might lead to household changes outside the projected range. Series B, the middle series, is currently judged to be the most plausible, but depending upon the purposes and assumptions of a specific user and upon actual demographic trends in the future, the user may wish to focus instead upon Series A or C. Because these household projections are long-term extrapolations, they form smooth trends, but actual future trends will at least be somewhat erratic, because of short-term fluctuations due to various social and economic factors.[4] The next section of this report describes the statistical methods used to implement the demographic assumptions discussed here.

Statistical methods. The statistical methods used to develop Series A, B, and C involve projecting 130 time series of proportions for age-sex-marital-householder status groups.

The proportions were first transformed using the logistic transformation. If x_t is the proportion in a given category for year t, the transformed value, Y_t, is

$$Y_t = \log_e(x_t/(1-x_t)) = \log_e(x_t)-\log_e(1-x_t)$$

Projections were made for the Y_t series and then transformed back to projections for the x_t series via the inverse of the logistic transformation:

$$x_t = \exp(Y_t)/(1+\exp(Y_t))$$

This use of the logistic transformation assures that projections for x_t will not stray outside the allowable range of (0,1).

The limited amount of time series data available (27 annual observations in each series) precluded any serious statistical attempts at time series model selection and evaluation. Preliminary analysis of a sample of 21 of the 130 series suggested first differencing all the series, i.e., taking $\nabla Y_t = Y_t - Y_{t-1}$ (the year-to-year changes). Beyond this, models for ∇Y_t were chosen based on considerations of simplicity and intuitive appeal, with little possibility of adequately checking their statistical validity.

The two models that were used produce linear projections emanating from the last data point. Both models have one parameter which was estimated from the data, and the fitted models were used to produce projections. The rationale behind the models can be understood as follows. Suppose it is reasonable to project Y_t from any given year m with a linear function of t emanating from Y_m. Obtaining the projections from the last data point of the series (m = 1985) requires estimation of the slope of the projection function. Each

[4]Future household changes estimated from the Current Population Survey will also vary from a smooth trend, because they are subject to sampling variability. For estimates of the sampling error of the survey data, see Current Population Reports, Series P-20, No. 398. If one of the household projection series were to accurately reflect future household change, the numbers published in this report would differ somewhat from Current Population Survey estimates, because the projections pertain to July, while the estimates pertain to March.

difference ∇Y_t provides an observation on the slope of the series, so the collection of $\nabla Y_{t's}$ from 1960 to 1985 can be used to estimate the slope to be used in the projection.

The simplest slope estimate would be a simple average of the $\nabla Y_{t's}$. This assumes the slope remains constant over time and corresponds to use of the so-called random walk with trend model

$$\nabla Y_t = \mu + e_t \qquad (1)$$

where μ is the slope and the e_t's are normal random errors. One problem with the use of the simple average of the ∇Y_t's to estimate μ is its sensitivity to outliers in the data. The biweight estimator, which is robust to outliers, was instead used to estimate μ.[5] The assumption that the slope remains constant over time is another possible problem with the model. A useful generalization of the model that allows the slope to change slowly over time is the so-called integrated moving average model of order (2,1), or IMA(2,1) model

$$\nabla^2 Y_t = \nabla(\nabla Y_t) = e_t - \theta e_{t-1} \qquad (2)$$

with the parameter θ constrained not to exceed 1 in magnitude.[1] For this model the slope of the forecast function is a weighted average of the ∇Y_t's, with the weights decreasing exponentially back from the end of the series according to powers of $\hat{\theta}$, the estimate of the parameter θ. Use of the IMA(2,1) model thus allows more weight to be given to recent ∇Y_t's in the determination of the slope of the projection function.

The random walk with trend model (1) is in fact a special case of the IMA(2,1) model (2) with $\theta = 1$. IMA(2,1) models were estimated for the 130 time series, and the estimate of θ was $\hat{\theta} = 1$ for 109 of the series. For these series the random walk with trend model was used instead so that the slope could be estimated robustly. For 10 of the remaining 21 series ($\hat{\theta}$ less than 1) the projections from the IMA(2,1) model and the non-robustly estimated random walk with trend model were judged practically identical, so the robustly estimated random walk with trend model was used for these also, to guard against the effects of outliers. This meant that in the final projections the IMA(2,1) model was only used for 11 of the series. These 11 series, however, were among the more influential series with respect to their contribution to the total number of households.

Projections for each of the 130 Y_t series were obtained from either the fitted random walk with trend model or the IMA(2,1) model, with the choice made as discussed above. These were then transformed back to projections of the x_t series, and these projections were combined with the middle series population projections to produce household projection Series A. The resulting projection of the total number of households was judged to be on the high side of the range of reasonable demographic assumptions. (See demographic assumptions section.) The Series C projections were obtained by assuming that the levels of the marital status and householder proportions observed in 1985 would continue unchanged to 2000, thus allowing only for changes in the age structure of the adult population. This in fact corresponds to use of the random walk model with no trend, i.e., $\mu = 0$. The resulting projections of total households are considerably lower than for Series A, and were judged to be on the low side of the range of reasonable demographic assumptions. (See demographic assumptions section.) To provide another alternative, Series B projections were developed by using projection slopes that were one-half of those obtained from the models described above for each of the 130 series, yielding Series B household projection results which lie between those of Series A and C. They are not simply the average of the Series A and C projections, because of the nonlinearity of the logistic transformation and the differential effects of the population size in the various groups. The middle series population projections was also used in producing Series B and C.

Steps involved in deriving household projections. The projected numbers of households and families were derived by following a procedure that combined the three series of projected proportions with the middle series population projections. The steps taken in calculating the number of households and families for each year of the projection period are shown in detail in Current Population Reports, Series P-25, No. 805 (May 1979).

The population under 18 years old in households and families was obtained by applying proportions developed from the 1980 census to the population under 18 in the low, middle, and high population projection series (Series P-25, No. 952).

DEFINITIONS OF TERMS

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

A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated persons sharing a housing unit as partners, is also counted as a household. The count of households excludes group quarters.

Group quarters. All persons not living in households are classified by the Bureau of the Census as living in group quarters.

Householder. The householder refers to the person (or one of the persons) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult

[5] See Bell, Bozik, McKenzie, and Shulman (1986) or McNeil, Donald R. (1977), *Interactive Data Analysis*, New York: John Wiley and Sons, Inc.

member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or wife. The person designated as the householder is the "reference person" to whom the relationship of all other household members, if any, is recorded.

Prior to 1980, the husband was always considered the householder in married-couple households. The number of householders is equal to the number of households. Also, the number of family householders is equal to the number of families. For purposes of historical comparability in the preparation of householder proportions to be used in making the projections, the husband in married-couple households was viewed as the householder for the years 1980 through 1985.

Family. A family is a group of two persons or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such persons (including related subfamily members) are considered as members of one family.

Family household. A family household is a household maintained by a family (as defined above), and any unrelated persons. The number of family households is equal to the number of families. The count of family household members differs from the count of family members, however, in that the family household members include all persons living in the household, whereas family members include only the householder and his/her relatives. (See the definition of family.)

Nonfamily householder. A nonfamily householder (formerly called a primary individual) is a person maintaining a household while living alone or with persons to whom they are not related.

RELATED REPORTS

The household projections published in this report are consistent with household estimates published in Current Population Reports, Series P-20. The coverage of the projections is essentially the same as that for the reports on marital status and household and family characteristics based on the CPS with the major exception that the institutional population is included in the projections, as it was in CPS data prior to 1972. The data apply to the resident population of the United States, except that members of the Armed Forces living in barracks and similar quarters are excluded. Data for years prior to 1960 exclude Alaska and Hawaii. Here, as in the CPS, single persons away from home in college dormitories are included as members of their families at their home; in the decennial census these persons are included in the group quarters population as secondary individuals at the dormitories where they live while attending college.

The population projections used in preparing this report are shown in Current Population Reports, Series P-25, No. 952.

ROUNDING OF ESTIMATES

Figures presented in this report have been rounded to the nearest thousand without being adjusted to group totals which are independently rounded; hence, the sum of the parts may differ slightly from the totals shown.

Table 1. Estimates of Households, by Type for 1985, and Projections From 1986 to 2000

(In thousands. Reference date is July 1, except as noted. See text for explanation of series)

Year and series	All households	Family households				Nonfamily households		
		Total	Married-couple	Other family: Male householder	Other family: Female householder	Total	Male householder	Female householder
1985[1]	86,789	62,706	50,350	2,228	10,129	24,082	10,114	13,968
1986:								
Series A	88,785	63,613	50,842	2,322	10,449	25,172	10,705	14,467
Series B	88,620	63,765	51,088	2,299	10,378	24,854	10,522	14,332
Series C	88,458	63,919	51,334	2,276	10,309	24,540	10,342	14,198
1987:								
Series A	90,382	64,216	51,079	2,415	10,722	26,165	11,251	14,914
Series B	90,033	64,526	51,581	2,366	10,579	25,506	10,871	14,635
Series C	89,697	64,834	52,077	2,319	10,438	24,863	10,500	14,363
1988:								
Series A	91,987	64,810	51,306	2,514	10,990	27,177	11,815	15,362
Series B	91,434	65,278	52,069	2,437	10,772	26,156	11,222	14,934
Series C	90,912	65,741	52,819	2,365	10,557	25,172	10,652	14,520
1989:								
Series A	93,622	65,403	51,521	2,616	11,266	28,219	12,403	15,816
Series B	92,847	66,034	52,554	2,508	10,972	26,814	11,583	15,231
Series C	92,126	66,653	53,562	2,410	10,681	25,473	10,802	14,671
1990:								
Series A	95,243	65,964	51,704	2,723	11,538	29,279	13,008	16,270
Series B	94,227	66,758	53,012	2,581	11,165	27,469	11,946	15,523
Series C	93,297	67,535	54,282	2,455	10,798	25,762	10,949	14,814
1991:								
Series A	96,828	66,487	51,849	2,832	11,805	30,341	13,620	16,721
Series B	95,555	67,445	53,437	2,654	11,354	28,110	12,304	15,805
Series C	94,406	68,379	54,971	2,499	10,909	26,026	11,082	14,945
1992:								
Series A	98,316	66,945	51,955	2,941	12,049	31,372	14,212	17,160
Series B	96,769	68,059	53,816	2,726	11,517	28,710	12,636	16,075
Series C	95,392	69,140	55,606	2,542	10,993	26,252	11,186	15,065
1993:								
Series A	99,786	67,370	52,030	3,051	12,289	32,416	14,820	17,596
Series B	97,946	68,638	54,166	2,797	11,675	29,308	12,970	16,338
Series C	96,329	69,864	56,209	2,584	11,071	26,465	11,286	15,179
1994:								
Series A	101,261	67,791	52,102	3,163	12,526	33,470	15,446	18,024
Series B	99,111	69,209	54,511	2,868	11,830	29,901	13,309	16,592
Series C	97,243	70,576	56,806	2,625	11,145	26,667	11,383	15,284
1995:								
Series A	102,785	68,219	52,178	3,276	12,765	34,565	16,102	18,463
Series B	100,308	69,787	54,863	2,940	11,984	30,520	13,666	16,854
Series C	98,180	71,294	57,410	2,667	11,217	26,887	11,490	15,396
1996:								
Series A	104,290	68,624	52,237	3,387	13,000	35,667	16,773	18,893
Series B	101,475	70,339	55,196	3,010	12,133	31,137	14,028	17,109
Series C	99,082	71,982	57,992	2,707	11,283	27,101	11,595	15,505
1997:								
Series A	105,749	68,974	52,243	3,499	13,232	36,774	17,442	19,332
Series B	102,585	70,834	55,476	3,077	12,280	31,751	14,383	17,368
Series C	99,924	72,614	58,522	2,745	11,347	27,311	11,693	15,617
1998:								
Series A	107,202	69,304	52,247	3,609	13,448	37,897	18,110	19,787
Series B	103,680	71,299	55,744	3,143	12,412	32,380	14,735	17,645
Series C	100,748	73,210	59,032	2,781	11,397	27,538	11,790	15,748
1999:								
Series A	108,672	69,649	52,249	3,724	13,676	39,023	18,781	20,241
Series B	104,776	71,774	56,011	3,211	12,552	33,002	15,087	17,916
Series C	101,568	73,814	59,543	2,817	11,453	27,753	11,882	15,871
2000:								
Series A	110,217	70,024	52,263	3,845	13,916	40,193	19,471	20,722
Series B	105,933	72,277	56,294	3,282	12,701	33,656	15,452	18,204
Series C	102,440	74,449	60,080	2,855	11,515	27,991	11,985	16,006

[1] As of March 1, based on Current Population Survey.

Table 2. Estimates of Households, by Age of Householder for 1985, and Projections From 1986 to 2000

(In thousands. Reference date is July 1, except as noted)

Series and age of householder	1985[1]	1986	1987	1988	1989	1990	1991	1992
SERIES A								
Total	86,789	88,785	90,382	91,987	93,622	95,243	96,828	98,316
Under 25 years	5,438	5,159	5,014	4,871	4,764	4,706	4,703	4,663
25 to 29 years	9,637	9,956	9,955	9,935	9,872	9,699	9,396	9,135
30 to 34 years	10,377	10,585	10,947	11,215	11,465	11,696	11,943	12,013
35 to 44 years	17,481	18,551	19,294	19,942	20,744	21,608	22,528	22,961
45 to 54 years	12,628	12,836	13,156	13,700	14,181	14,650	15,087	16,105
55 to 64 years	13,073	12,902	12,747	12,620	12,472	12,345	12,258	12,186
65 to 74 years	10,851	11,069	11,278	11,443	11,599	11,746	11,879	11,991
75 years and over	7,305	7,727	7,992	8,260	8,526	8,793	9,035	9,264
SERIES B								
Total	86,789	88,620	90,033	91,434	92,847	94,227	95,555	96,769
Under 25 years	5,438	5,159	5,010	4,857	4,737	4,663	4,642	4,580
25 to 29 years	9,637	9,953	9,947	9,920	9,848	9,663	9,348	9,073
30 to 34 years	10,377	10,558	10,888	11,121	11,332	11,520	11,719	11,740
35 to 44 years	17,481	18,491	19,169	19,746	20,468	21,245	22,069	22,409
45 to 54 years	12,628	12,798	13,079	13,578	14,011	14,429	14,812	15,760
55 to 64 years	13,073	12,893	12,731	12,597	12,443	12,311	12,220	12,145
65 to 74 years	10,851	11,053	11,245	11,395	11,538	11,672	11,794	11,896
75 years and over	7,305	7,714	7,965	8,219	8,470	8,724	8,951	9,167
SERIES C								
Total	86,789	88,458	89,697	90,912	92,126	93,297	94,406	95,392
Under 25 years	5,438	5,161	5,012	4,855	4,731	4,653	4,629	4,561
25 to 29 years	9,637	9,951	9,942	9,912	9,835	9,646	9,326	9,045
30 to 34 years	10,377	10,532	10,833	11,036	11,215	11,370	11,533	11,521
35 to 44 years	17,481	18,433	19,046	19,555	20,203	20,900	21,635	21,893
45 to 54 years	12,628	12,761	13,003	13,460	13,849	14,220	14,554	15,439
55 to 64 years	13,073	12,884	12,713	12,572	12,411	12,272	12,174	12,093
65 to 74 years	10,851	11,036	11,211	11,344	11,470	11,588	11,693	11,780
75 years and over	7,305	7,700	7,937	8,176	8,412	8,649	8,861	9,059

Series and age of householder	1993	1994	1995	1996	1997	1998	1999	2000
SERIES A								
Total	99,786	101,261	102,785	104,290	105,749	107,202	108,672	110,217
Under 25 years	4,632	4,562	4,492	4,416	4,458	4,549	4,702	4,882
25 to 29 years	8,847	8,629	8,542	8,570	8,496	8,409	8,227	8,033
30 to 34 years	12,063	12,061	11,928	11,636	11,395	11,119	10,924	10,891
35 to 44 years	23,556	24,173	24,792	25,396	25,928	26,332	26,652	26,801
45 to 54 years	16,943	17,779	18,618	19,477	20,260	20,951	21,797	22,710
55 to 64 years	12,169	12,203	12,279	12,432	12,690	13,164	13,565	13,947
65 to 74 years	12,073	12,104	12,120	12,068	11,943	11,844	11,724	11,627
75 years and over	9,503	9,750	10,014	10,296	10,579	10,834	11,081	11,326
SERIES B								
Total	97,946	99,111	100,308	101,475	102,585	103,680	104,776	105,933
Under 25 years	4,522	4,421	4,316	4,201	4,198	4,234	4,327	4,442
25 to 29 years	8,769	8,533	8,427	8,431	8,334	8,223	8,018	7,801
30 to 34 years	11,740	11,685	11,500	11,161	10,870	10,545	10,297	10,203
35 to 44 years	22,903	23,411	23,916	24,401	24,813	25,098	25,301	25,339
45 to 54 years	16,525	17,281	18,035	18,801	19,486	20,078	20,812	21,603
55 to 64 years	12,126	12,158	12,233	12,385	12,643	13,117	13,519	13,903
65 to 74 years	11,970	11,996	12,006	11,952	11,826	11,728	11,610	11,516
75 years and over	9,392	9,625	9,876	10,144	10,414	10,657	10,892	11,126
SERIES C								
Total	96,329	97,243	98,180	99,082	99,924	100,748	101,568	102,440
Under 25 years	4,495	4,382	4,264	4,134	4,115	4,132	4,204	4,299
25 to 29 years	8,735	8,492	8,378	8,373	8,268	8,147	7,934	7,708
30 to 34 years	11,486	11,397	11,181	10,816	10,499	10,148	9,873	9,747
35 to 44 years	22,298	22,713	23,120	23,503	23,813	23,999	24,106	24,052
45 to 54 years	16,140	16,828	17,508	18,196	18,802	19,313	19,958	20,651
55 to 64 years	12,069	12,096	12,166	12,313	12,565	13,031	13,427	13,805
65 to 74 years	11,840	11,851	11,849	11,783	11,647	11,540	11,413	11,311
75 years and over	9,267	9,483	9,715	9,964	10,215	10,438	10,653	10,867

[1]As of March 1, based on Current Population Survey.

Appendix. Illustrative Economic Model-Based Predictions of Households

The Census Bureau has recently begun to experiment with economic modeling as an additional method to estimate future households. Based on annual postwar data, regression equations for four age-householder groups (under 25 years, 25-34 years, 35-54 years, 55 years and over) were estimated and used to predict householder proportions for the 1990-2000 period. The predicted proportions were applied to Bureau population projections to obtain estimates of the number of future households.

The major independent economic variables used to explain and to predict age-householder proportions were real household income, real household net worth, and relative housing prices. Other economic and demographic variables were also tested in the householder equations.[1] Household estimates for selected future years based on two assumed economic scenarios are shown in tables A-1 and A-2.

The predicted number of households in tables A-1 and A-2 are based on an economic model of age-householder proportions. The predictions in table A-1 are consistent with a robust economy characterized by an assumed high rate of secular growth in real income and net worth, and only slightly rising relative housing prices. Table A-2 predictions assume a mildly expanding economy with moderate growth in real income, net worth, and relative housing prices.

The alternative estimates of households shown below are generally consistent with the range of autoregressive time-series-based projections presented in this report. However, by age of householder, the economic model-based predictions tend to show slightly higher estimates for the youngest age group.

[1]For a more complete explanation of this research, including the estimated equations, readers may write to the authors, Alfred Tella, K. Chandrasekar, or Arnold Reznek, Rm. 3061-3, Bureau of the Census, Washington, D.C. 20233.

Table A-1. Households Based on Robust Economy

(Numbers in thousands)

Age of householder	1990	1995	2000
All households	95,724	103,235	110,689
Under 25 years	5,569	5,710	6,379
25-34 years	22,212	21,428	19,996
35-54 years	34,902	41,063	45,923
55 years and over	33,041	35,034	38,391

Table A-2. Households Based on Moderately Growing Economy

(Numbers in thousands)

Age of householder	1990	1995	2000
All households	93,437	98,848	103,835
Under 25 years	5,313	5,238	5,616
25-34 years	21,472	20,142	18,237
35-54 years	34,269	39,707	43,665
55 years and over	32,383	33,761	36,317

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