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INTERIM REVISED PROJECTIONS OF THE POPULATION OF THE UNITED STATES, BY AGE AND SEX: 1975 AND 1980

(A supplement to Current Population Reports, Series P-25, Nos. 187 and 241)

This report presents two series of revised projections of the population of the United States, by age and sex, for 1975 and 1980. They are extensions of projections for 1965 and 1970 recently published in Current Population Reports, Series P-25, No. 241, "Interim Revised Projections of the Population of the United States, by Age and Sex: 1965 and 1970." The projections in both reports are intended to serve as supplements to Current Population Reports, Series P-25, No. 187, "Illustrative Projections of the Population of the United States, by Age and Sex: 1960 to 1980." The revised reports include Alaska and Hawaii and take account of the 1960 Census data on the age and sex composition of the population. The basic method and assumptions of both reports are the same. They are considered to be interim projections; a more thorough consideration is being made of the most appropriate methodology and assumptions which should be used to develop projections. It is planned to publish a complete revision of the population projections after this review has been completed.

DESCRIPTION OF METHOD

In general, the method and assumptions underlying the population projections presented here are the same as those used initially in developing the projections for 1965 and 1970 shown in Series P-25, No. 241. The latter, as

pointed out in that report, were prepared by virtually the same method as those appearing in Series P-25, No. 187, but only two of the four sets of assumptions of that report were used here. Essentially, the method involves the combination of separate projections of each of the components of population change (i.e., births, deaths, and net immigration) with estimates of current population. More specifically, the methodology in making the current projections for 1965 and 1970, was to apply to current population estimates for July 1, 1960, the migration-survival ratios for 1960-65 and 1965-70 periods calculated from Series P-25, No. 187. The projections for 1975 and 1980 were then, in turn, prepared by applying the appropriate migration-survival ratios for the 1970-75 and 1975-80 periods from Series P-25, No. 187, to the 1970 projections previously published in Series P-25, No. 241. The current population estimates for July 1, 1960, used in the projections were based on the 1960 Census statistics on the age and sex distribution of the population. They were adjusted to include Armed Forces abroad and for reported population changes between April 1, 1960, the census date, and July 1, 1960. The migration-survival ratios represent the combined effect of both mortality and net migration from abroad. They were derived by calculating from Series P-25, No. 187, the ratio of the population in a given age group to the population in the corresponding younger age group five years earlier. Projections for

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age groups born after 1970 were derived by applying age-specific birth rates to the average number of females in the 15 to 44 age groups in the 1970-75 and 1975-80 period, by 5-year age intervals. For the basic tables used in constructing the ratios and for a full discussion of the method, see Series P-25, Nos. 187 and 241.

Projection of births.--The two sets of assumptions concerning future fertility used in making the interim projections to 1965 and 1970 were also incorporated here. They were chosen from the four fertility series used in the earlier report, Series P-25, No. 187. Series II and III were chosen for these "interim" projections. Actual fertility rates have been near the level of Series II (1955-57 average fertility) in 1960-61 and have approximated the level of Series II in each year since the preparation of the original projections. Assumptions about fertility extending as far in advance as 1980, however, could well be quite wide of the mark. It is very possible then, particularly for a part of the projection period, that future population growth will be greater than that implied by Series II or smaller than that implied by Series III. Moreover, all of the projections are based on certain fundamental assumptions--that there will be no major war, epidemic, severe economic depression, or other catastrophe.

The fertility levels assumed for each future 5-year period were expressed in terms of the gross reproduction rate (GRR), a summary measure of annual fertility independent of the age composition of the population and derived from particular levels of age-specific reproduction rates (annual female births per 1,000 females of childbearing age in a given 5-year age group at the middle of the year). The exact assumptions used in this report regarding the gross reproduction rates for future years are as follows:

Series II.--Fertility remains constant at the 1955-57 level (about the same as the 1958-60 level) throughout the projection period to 1980 (GRR of 179).

Series III.--Fertility declines from the 1955-57 level to the 1949-51 level by 1965-70 and then remains at that level to 1980 (ultimate GRR of 154). In effect, the fertility level assumed for 1960-65 corresponds to a GRR of about 164.

Table A shows the annual levels of fertility (in terms of the gross reproduction rate) from 1955 to date and the projected levels for groups of years to 1980.

Table A.--GROSS REPRODUCTION RATES: 1955 TO 1980

Year or period	GRR	Year or period	GRR
1955-57 average...	179	Series II:	179
1955.....	174	1960-65 ¹	179
1956.....	179	1965-70.....	179
1957.....	183	1970-75.....	179
		1975-80.....	179
1958-60 average...	180	Series III:	154
1958.....	180	1960-65.....	164
1959.....	180	1965-70.....	154
1960.....	179	1970-75.....	154
		1975-80.....	154

¹ GRR for 1961, based on the most recent figures on births, is 179.

Births for 1970-75 and 1975-80 were projected by applying, to the numbers of women 15 to 44 years old, the age-specific birth rates, by 5-year age groups, of 1955. Total births were then adjusted according to the gross reproduction rates assumed for each series. The two series assume the total numbers of future births and the crude birth rates for future years given in table B. For an analysis of the implications of these assumptions in terms of completed fertility rates of women, reference should be made to pages 9 to 11 of Series P-25, No. 187.

Table B.--ACTUAL AND PROJECTED BIRTHS AND CRUDE BIRTH RATES

Period (July 1 to June 30)	Births (in thousands)		Average annual rate per 1,000 of mid-period population	
	Series II	Series III	Series II	Series III
1950 to 1955 ¹	19,746		24.8	
1955 to 1960 ¹	21,359		24.6	
1960 to 1965.....	22,617	20,813	24.0	22.2
1965 to 1970.....	25,588	21,978	24.9	21.8
1970 to 1975.....	29,205	25,090	26.0	23.1
1975 to 1980.....	32,995	28,350	26.7	24.0

¹ Registered births corrected for underregistration.

Projections of deaths and net immigration.--One series of age sex specific mortality rates was used for both series of population projections. These are the same as those used

in the previous report. The projected numbers of deaths and the crude death rates implied by the age-specific mortality rates in combination with the revised population projections shown in this report are given in table C.

Table C.--ACTUAL AND PROJECTED DEATHS AND
CRUDE DEATH RATES

Period (July 1 to June 30)	Deaths (in thousands)		Average annual rate per 1,000 of mid-period population	
	Series II	Series III	Series II	Series III
1950 to 1955.....	7,517		9.5	
1955 to 1960.....	8,184		9.4	
1960 to 1965.....	8,569	8,528	9.1	9.1
1965 to 1970.....	9,082	9,000	8.9	8.9
1970 to 1975.....	9,652	9,558	8.6	8.8
1975 to 1980.....	10,186	10,077	8.2	8.5

As in the earlier reports, only one series of allowances for future net immigration, by age and sex, was used for both series of population projections, namely, an arbitrary allowance of 300,000 per year (or 1.5 million per quinquennium) throughout the projection period 1960 to 1980. Also, in the actual computations, deaths and net migration were estimated in combination, by the use of migration-survival ratios.

LIMITATIONS

The two series of population projections given here offer the user a choice of assumptions as to the course of population changes during the next two decades. As previously stated, it is still possible, particularly for a part of the projection period, that future population growth will be greater than that implied by Series II or smaller than that implied by Series III and that the population itself may fall outside the range defined. In view of the many uncertainties in predicting future fertility, the Bureau of the Census does not recommend either series as the better series.

Furthermore, the fact that only two series are shown here rather than the four series included in past reports is not to be taken as an indication of the degree of assurance with which the Census Bureau considers these

projections. The level of uncertainty concerning future fertility is the same as would be implied by a larger number of illustrative series. By comparing the present projections with the corresponding ones of Series P-25, No. 187, the reader may measure the effects of adjusting the projection series to be consistent with the 1960 Census figures.

RELATED REPORTS

The census counts of the population of the United States by age and sex, as of April 1, 1960, used as bases for making these projections are published in 1960 Census of Population, General Population Characteristics, PC(1)-1B. The projections in this report replace those for 1965 to 1980, previously published in Current Population Reports, Series P-25, No. 187. The projections for 1965 and 1970 are the same as those published in Series P-25, No. 241. They are republished here for the convenience of the user.

The latest projections of the population of States were published in August 1957 in Current Population Reports, Series P-25, No. 160. These projections are now out of date. It is planned to publish revised projections of State population, taking account of the 1960 Census results, in the next year or so.

Projections of school and college enrollment to 1980 for the United States have been published in Series P-25, No. 232. These figures were prepared on the basis of earlier population projections which did not take account of the results of the 1960 Census relating to the age and sex distribution of the population. Inasmuch as the census data and the earlier projections of population for the school ages were rather close and these revised projections differ little from the earlier projections for the school-age population, enrollment projections computed at this time using the same assumption would not differ much from those published in Series P-25, No. 232.

Projections of the number of households and families in the United States to 1980 were published in December 1958 in Current Population Reports, Series P-20, No. 90. Revisions of these projections incorporating the latest national population projections as well as data from the 1960 Census are in process.

ESTIMATES AND PROJECTIONS OF THE POPULATION OF THE UNITED STATES INCLUDING ARMED FORCES ABROAD, BY AGE AND SEX: 1960 TO 1980

(In thousands. Figures relate to July 1. Series II and III imply the following assumptions as to fertility: II--continues to 1975-80 at 1955-57 level (roughly same as 1958-60 level--GRR = 179); III--declines from 1955-57 level to 1949-51 by 1965-70 and continues at that level through 1975-80 (ultimate GRR = 154). Figures preceded by an asterisk (*) represent, in whole or in part, survivors of births projected for years after 1960)

Age	Total					Male					Female				
	1960 ¹	1965	1970	1975	1980	1960 ¹	1965	1970	1975	1980	1960 ¹	1965	1970	1975	1980
SERIES II															
All ages.....	180,677	*196,217	*214,222	*235,275	*259,584	89,323	*96,815	*105,592	*116,001	*128,140	91,354	*99,402	*108,630	*119,274	*131,444
Under 5 years.....	20,318	*22,170	*25,135	*28,735	*32,505	10,330	*11,328	*12,846	*14,690	*16,621	9,988	*10,842	*12,289	*14,045	*15,884
5 to 9 years.....	18,789	20,346	*22,215	*25,172	*28,762	9,554	10,336	*11,345	*12,859	*14,697	9,235	10,009	*10,870	*12,313	*14,065
10 to 14 years.....	16,985	18,865	20,400	*22,271	*25,223	8,632	9,590	10,359	*11,368	*12,879	8,353	9,275	10,042	*10,903	*12,344
15 to 19 years.....	13,424	17,019	18,910	20,443	*22,312	6,793	8,635	9,595	10,362	*11,370	6,631	8,384	9,316	10,081	*10,942
SERIES III															
All ages.....	180,677	*194,454	*208,931	*225,963	*245,736	89,323	*95,914	*102,888	*111,244	*121,064	91,354	*98,540	*106,043	*114,719	*124,672
Under 5 years.....	20,318	*20,408	*21,600	*24,697	*27,940	10,330	*10,427	*11,040	*12,626	*14,286	9,988	*9,981	*10,560	*12,071	*13,654
5 to 9 years.....	18,789	20,346	*20,459	*21,651	*24,739	9,554	10,336	*10,448	*11,061	*12,642	9,235	10,009	*10,011	*10,590	*12,097
10 to 14 years.....	16,985	18,865	20,400	*20,518	*21,709	8,632	9,590	10,359	*10,473	*11,085	8,353	9,275	10,042	*10,045	*10,624
15 to 19 years.....	13,424	17,019	18,910	20,443	*20,564	6,793	8,635	9,595	10,362	*10,478	6,631	8,384	9,316	10,081	*10,086
SERIES II AND III-- 20 YEARS AND OVER															
20 to 24 years.....	11,137	13,543	17,094	18,979	20,507	5,567	6,810	8,623	9,578	10,343	5,570	6,732	8,471	9,401	10,164
25 to 29 years.....	10,960	11,246	13,681	17,209	19,087	5,435	5,585	6,835	8,631	9,582	5,525	5,661	6,846	8,578	9,505
30 to 34 years.....	11,975	11,081	11,367	13,794	17,302	5,899	5,477	5,629	6,873	8,656	6,076	5,604	5,738	6,921	8,646
35 to 39 years.....	12,542	12,029	11,131	11,418	13,833	6,140	5,926	5,496	5,648	6,884	6,402	6,104	5,635	5,770	6,949
40 to 44 years.....	11,680	12,496	11,987	11,107	11,394	5,733	6,105	5,893	5,474	5,626	5,948	6,391	6,094	5,633	5,768
45 to 49 years.....	10,926	11,507	12,335	11,849	10,995	5,384	5,623	5,998	5,799	5,395	5,541	5,884	6,337	6,050	5,600
50 to 54 years.....	9,655	10,618	11,206	12,031	11,575	4,758	5,180	5,421	5,794	5,613	4,897	5,437	5,785	6,237	5,962
55 to 59 years.....	8,465	9,211	10,151	10,742	11,557	4,443	4,461	4,869	5,111	5,478	4,322	4,750	5,282	5,631	6,079
60 to 64 years.....	7,162	7,843	8,573	9,485	10,074	3,418	3,735	4,040	4,430	4,672	3,744	4,109	4,533	5,055	5,402
65 to 69 years.....	6,264	6,333	6,972	7,671	8,540	2,929	2,897	3,184	3,471	3,837	3,335	3,436	3,788	4,200	4,703
70 to 74 years.....	4,769	5,234	5,324	5,911	6,556	2,195	2,324	2,312	2,567	2,827	2,574	2,910	3,012	3,344	3,729
75 to 79 years.....	3,084	3,610	4,027	4,141	4,636	1,372	1,562	1,679	1,689	1,895	1,712	2,048	2,348	2,452	2,741
80 to 84 years.....	1,600	1,960	2,341	2,649	2,757	673	816	948	1,033	1,052	927	1,144	1,393	1,616	1,705
85 years and over...	940	1,106	1,371	1,668	1,969	367	424	520	624	713	573	681	850	1,044	1,256
SELECTED AGES															
Series II:															
5 to 17 years.....	44,155	49,701	*54,304	*59,710	*67,373	22,434	25,251	*27,630	*30,445	*34,398	21,722	24,450	*26,674	*29,265	*32,975
18 to 21 years.....	9,610	12,090	14,244	15,768	*17,128	4,836	6,112	7,213	7,976	*8,686	4,774	5,978	7,032	7,792	*8,442
14 years and over...	127,302	138,362	150,450	*163,552	*178,139	62,188	67,355	73,061	*79,358	*86,519	65,114	71,007	*77,388	*84,194	*91,620
18 years and over...	116,203	124,345	134,783	146,830	*159,706	56,559	60,236	65,115	70,866	*77,121	59,644	64,109	69,667	75,964	*82,585
21 years and over...	108,861	115,043	124,059	134,858	146,680	52,859	55,528	59,679	64,806	70,504	56,002	59,516	64,380	70,052	76,176
65 years and over...	16,658	18,243	20,035	22,040	24,458	7,536	8,024	8,643	9,384	10,324	9,122	10,218	11,392	12,656	14,134
Series III:															
5 to 17 years.....	44,155	49,701	*52,548	*54,436	*58,786	22,434	25,251	*26,733	*27,752	*30,013	21,722	24,450	*25,815	*26,684	*28,773
18 to 21 years.....	9,610	12,090	14,244	15,768	*16,430	4,836	6,112	7,213	7,976	*8,330	4,774	5,978	7,032	7,792	*8,100
14 years and over...	127,302	138,362	150,450	*163,201	*175,690	62,188	67,355	73,061	*79,179	*85,268	65,114	71,007	*77,388	*84,022	*90,422
18 years and over...	116,203	124,345	134,783	146,830	*159,010	56,559	60,236	65,115	70,866	*76,765	59,644	64,109	69,667	75,964	*82,245
21 years and over...	108,861	115,043	124,059	134,858	146,682	52,859	55,528	59,679	64,806	70,504	56,002	59,516	64,380	70,052	76,178
65 years and over...	16,658	18,243	20,035	22,040	24,458	7,536	8,024	8,643	9,384	10,324	9,122	10,218	11,392	12,656	14,134

¹ U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-25, No. 246. These numbers differ slightly from those for the same year shown in No. 241. The latter were used as the base for these projections.