ILLUSTRATIVE UNITED STATES POPULATION PROJECTIONS, 1952

By

Robert J. Myers and E. A. Rasor

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FOREWORD

Actuarial Study No. 33 presents the two population projections which will underly the long-range cost estimates for the old-age and survivors insurance program, which are now being made and which will be completed in the next few months. In addition, two other population projections are set forth in this actuarial study so as to indicate the range possible in the total population over the long-range future.

Although the long-range cost estimates for the old-age and survivors insurance program extend only to the year 2000 with conditions thereafter being assumed to be "mature", these population projections have been carried on for another 50 years solely for illustrative purposes, as indicating the wide divergency that might develop if the demographic bases assumed were to continue into the future. Although half a century is a long time, population projections for only the period up to the year 2000 will not show a very wide spread because so many of the persons who will be living at that time have already been born (and this is completely the case for the aged population). The birth rate, as has been evidenced in the past two decades, is subject to wide variations, and its future trend cannot be predicted with any great precision. Therefore, the population of the country a century hence can well be subject to a very wide range of variation.

A. INTRODUCTION

The fundamental base of a long-range cost estimate for the old-age and survivors insurance program is a projection into the future of the United States population. It is necessary to have data for future quinquennial calendar years showing the population by sex and 5-year age groups. These projections must be carried forward for 40 years or more, since, even with a stationary population, the old-age and survivors insurance program cannot possibly reach a stage of even relative maturity before that time.

In 1934-35, when the Committee on Economic Security made its original cost estimates for the old-age benefits program to be incorporated in the Social Security Act, no population projection was available in the particular form necessary, so that development of a projection was of primary importance. The resulting projection was based on rather simple assumptions, namely, the continuance of mortality rates according to 1920-29 patterns and birth rates such that the total population would follow an arbitrary growth curve leveling off at 150 million after 1975. This projection is summarized on page 207 of Issues in Social Security, A Report to the Committee on Ways and Means of the House of Representatives by the Committee's Social Security Technical Staff, January 1946.

After the Social Security Act had been passed, cost studies made in 1937 were based on a set of more comprehensive population projections made by Thompson and Whelpton for the National Resources Committee (Population Statistics, National Data, October 1937). The published data were given in detail for six projections varying in regard to assumptions as to fertility, mortality, and immigration. New cost estimates for the old-age insurance plan (presented in Actuarial Study No. 8) were developed on the basis of the "medium" NRC projection, which involved medium fertility, medium mortality, and 100,000 net annual immigration. These new cost estimates did not supersede the original ones but rather supplemented them as indicating the potential range in costs.

The various cost estimates made for the 1939 Amendments (Actuarial Study No. 14) and subsequently through the war years (Actuarial Study Nos. 17 and 19) were based on the two population projections developed for the original program. New cost estimates were developed in 1946 (Actuarial Study No. 23) to take into account recent wage trends and the latest population data. The population projections used therefor were presented in Actuarial Study No. 24. The projections prepared by Thompson and Whelpton for the National Resources Planning Board (Estimates of Future Population of the United States, 1940-2000, August 1943) were not directly used because by 1946 considerable data as to combat losses and wartime fertility were available. Accordingly, the new projections utilized the NRPB base

but allowed for subsequent actual experience. There projections were subsequently revised by the Bureau of the Census to allow for actual wartime experience as to mortality and fertility (Population Special Reports, Series P-46, No. 7, September 1946). Subsequently, to take account of postwar experience, revised short-range estimates (up to 1960) have also been released.

This study establishes a new population base for the actuarial cost estimates for the old-age and survivors insurance system. The previous projections need revision on several grounds, such as the availability of the 1950 Census data and of the postwar experience as to fertility, mortality, and immigration. Furthermore, these projections related only to the Continental United States, whereas the coverage of the old-age and survivors insurance system now extends to Alaska, Hawaii, Puerto Rico, and the Virgin Islands (and, in addition, to Americans employed outside of the United States by American employers). Accordingly, these projections relate to the entire United States population.

B. METHODOLOGY AND ASSUMPTIONS

The population estimates presented in this report have been prepared, in general, by the same method as that used by Thompson and Whelpton in their two reports cited previously and by this office in previous projections. This method begins with a population at a census date, subdivided into quinquennial age groups and sex. No subdivision by race is made in these projections since there is no need for such data for old-age and survivors insurance cost estimates. Each of these population groups is then projected into the future by the use of quinquennial survival rates that give the probability of persons in a particular quinquennial age group surviving for 5 years.

At the same time, the number of births within the next 5-year period are obtained by applying age-specific birth rates (i.e. births in a 1-year period per 1000 women of a specified 5-year age group) to the female population in the middle of the period and multiplying the resulting annual births by 5. These births are then subdivided by sex according to a fixed sex ratio at birth (a very stable factor), and are projected by appropriate survival factors to the end of the 5-year period and then to the end of subsequent 5-year periods in the same fashion as the original population. Carrying these various steps forward, population estimates are developed by quinquennial age groups and sex for various 5-year dates in the future.

When an assumption involving immigration is introduced, the above procedure is modified slightly in that the survivors of the immigrants during a 5-year period are added to the survivors (at the end of the period) of the population existing at the beginning of the 5-year period. Both groups combined are then projected into the future.

Four population projections have been made. All have the same assumptions as to the starting population and as to net immigration but varying assumptions as to mortality and fertility (see Table 1).

Starting Population

The population projections of this report are all based on the population of the United States on April 1, 1950--the census date. Since the population projections are constructed solely for making cost estimates for the old-age and survivors insurance program, the base is the population from which the old-age and survivors insurance coverage is drawn. Thus included are the following (see Census Release PC-9, No. 2, June 3, 1952):

Table 1

GENERAL BASES OF FOUR ILLUSTRATIVE POPULATION PROJECTIONS

	Fertility	Mortality	Annual Immigration[a/]
Projection A	Low	High	100,000
Projection B	High	Low	100,000
Projection C	High	High	100,000
Projection D	Low	Low	100,000

a/ Actually, figures indicate net immigration in 5-year period surviving at end of period.

Note: See text for detailed description of above bases and other ones used.

Area or Category	Population, April 1, 1950 (in thousands)
Continental United States	150,697
Alaska	129
Hawaii	500
Puerto Rico	2,211
Virgin Islands	27
Armed Forces Overseas	302
U.S. Civilians Overseas	234
Subtotal	154,100
Underenumeration of Children	800
Total Population Base	154,900

Not included in the above figures are Guam (about 60,000), Samoa (about 20,000), the Trust Territory of the Pacific Islands, former Japanese mandated islands (about 55,000), and several other small areas since residents thereof are not covered by old-age and survivors insurance. The category "U.S. Civilians Overseas" includes civilian citizens employed by the United States Government and their families (as well as families of armed forces personnel), crews of merchant vessels, and residents in the Canal Zone; the latter group is included because it consists largely of citizens temporarily residing there (many of them are currently covered by old-age and survivors insurance as Government employees not under another retirement system, and others have been, or will be, covered by reason of employment on the Continent). Not included are citizens employed outside the United States by American employers (and their families); this relatively small group is covered by old-age and survivors insurance but is at least in part offset by inclusion in the Continental United States census of foreigners temporarily here who are not covered and who will return to their own countries.

The category "Underenumeration of Children" corrects for the continuing failure of the census to obtain complete reporting of children 0-4. The figure used for this group is based on a comparison of the enumerated population with a mortality projection of the births in the 5 years preceding the census.

These populations are all available by age-groups from the census except for U.S. civilians overseas. This relatively small category was dealt with by merely distributing it in accordance with the age distribution of all other categories combined.

Mortality Assumptions

Two sets of mortality rates varying by age, sex, and calendar year have been developed. The high mortality rates are empirically taken as falling midway between the 1950 rates and the low rates, which were computed first.

In Table 2 are shown annual mortality rates by age and sex for 1930, 1940, and 1948 along with rates for three sets of low mortality estimates for the year 2000. The rates shown for Actuarial Study No. 24 (used previously in the cost estimates) are the same as the National Resources Planning Board low mortality rates except for ages 65 and over where a further reduction was assumed. The rates shown under "Percent Reduction" are obtained by assuming the same percentage reduction every 10 years in the future as the actual reduction from 1940 to 1948. The rates in the last column, used in this study, are based on the two aforesaid sets of rates and in most cases fall between them for the year 2000, and are further restricted to follow a logistic curve,

$$q_x = \frac{B}{B + C^{-x}}$$

such that the age-specific rates approach zero and unity asymptotically at the youngest and oldest ages, respectively (not including age 0 where special treatment is given).

Lacking rates for 1950, and since rates by race will not be used, it has been deemed sufficiently accurate to assume that the 1948 rates for whites are representative of the 1950 rates for total population. The 2000 rates so obtained are accordingly the ultimate rates for all races combined.

The ultimate (year 2000) high mortality rates are assumed to be the same as the rates for 1975 under the low mortality estimate, since it was decided that the high mortality estimate also should show some improvement over the 1948 rates. The intervening years under both estimates are obtained by linear interpolation between 1950 and the ultimate. The rate for age 0 is obtained by the percentage reduction method.

The end results of these new mortality assumptions as compared to Actuarial Study No. 24 are:

(1) A smaller spread between the high and low mortality assumptions.

(2) A greater reduction ultimately in the mortality for the very young and for the very old, and a smaller reduction for the intervening ages.

(3) A greater reduction for current and near-future mortality in line with the large decrease in mortality during the last decade.

Table 2

ANNUAL MORTALITY RATES (PER 1000) BY AGE AND SEX
FOR VARIOUS YEARS

Age	U.S. White 1929-31	U.S. White 1939-41	U.S. White 1948 a/	Low Mortality, 2000 Actuarial Study No. 24	Low Mortality, 2000 Percent Reduction b/	Low Mortality, 2000 This Study c/
			Male			
0	62.32	48.12	33.40	19.0	5.37	5.37
1	9.93	4.87	2.58	1.7	.29	.07
5	2.66	2.65	1.48	.4	.12	.10
10	1.47	1.00	.63	.3	.06	.16
20	3.18	2.12	1.72	.5	.60	.40
30	4.13	2.79	2.00	.9	.38	1.00
40	6.79	5.13	4.25	1.8	1.65	2.51
50	12.78	11.55	10.78	4.6	7.62	6.29
60	26.44	25.48	23.73	12.2	16.60	15.67
70	57.96	54.54	53.24	36.7	47.15	38.50
80	129.97	124.71	110.74	97.5	61.14	91.52
90	245.50	248.94	230.77	221.8	157.96	202.18
			Female			
0	49.63	37.89	25.70	16.2	3.66	3.66
1	8.79	4.32	2.20	1.6	.17	.03
5	4.57	2.20	1.27	.3	.05	.05
10	1.73	.70	.41	.2	.03	.07
20	2.77	1.45	.85	.4	.06	.20
30	3.74	2.20	1.25	.8	.07	.55
40	5.32	3.68	2.70	1.5	.58	1.50
50	9.59	7.62	5.94	3.5	1.72	4.10
60	20.63	17.14	13.49	9.5	4.07	10.93
70	48.66	42.33	36.68	28.5	17.97	29.12
80	117.42	108.19	90.53	84.6	37.19	75.29
90	231.51	231.41	210.05	206.2	129.41	181.00

a/ These rates were developed from the abridged life tables in "Vital Statistics of the United States, 1948," National Office of Vital Statistics (page XLIII) and are used in this study for total mortality in 1950.

b/ These rates are the result of reducing the mortality every decennium by the same proportion that 1948 was reduced over 1940.

c/ Based on a logistic curve such that the rates will fall between "Actuarial Study No. 24" rates and the "Percent Reduction" rates.

Table 3 shows the expectation of life by age and sex for the U.S. white population for various past experience years, along with the corresponding figures for the year 2000 under the rates of this study and those estimated by the National Resources Planning Board. These latter expectations have been computed on the basis of decreasing mortality and are slightly lower than those based on the low mortality projections for Actuarial Study No. 24, which assumed a greater reduction in mortality for those age 65 and over.

If there were no deaths prior to age 40, the expectation at birth would be increased by only 4-5 years for the 1950 rates and by 1-1½ years for the year 2000 rates of this study. Thus most of the increase in expectation of life at the younger ages is due to the assumed improvement in mortality at the older ages.

The mortality assumptions have been developed largely on the basis of an extensive study of mortality trends. Although the actual results set down have been determined by using theoretical mathematical methods, it should not be considered that this means greater precision in the projections into the future. Rather this has been done primarily to obtain smoothness in the resulting figures. In recent years much research has been conducted in estimating the future trends of mortality by analyzing causes of death and generation mortality. However, it is believed that no conclusive results have been obtained so the "simpler" method of mathematical projection combined with general reasoning on the basis of past trends has been utilized.

It will be observed that, on the whole, male mortality is assumed to improve more rapidly than female, thus narrowing somewhat the spread now existing. Although in the past this gap has actually been increasing, it seems reasonable that over the long-range future, it should narrow as indicated by the methodology used here.

Fertility Assumptions

Two sets of fertility rates varying by age and calendar year have been developed. Both sets show decreases from the current high level, but no specific downward long-term trend is assumed (as was generally done in most pre-war projections). Rather two ultimate levels (effective from 1960 on) are assumed, on rather empirical grounds, and the rates for 1950's are graded in from the current experience.

Extensive research and analysis have been made in recent years in regard to fertility--dealing with such elements as generation rates, birth order analysis, and social and psychological factors. However, there does not appear to be any conclusive evidence as to the direction or level of long-term trends so the very simple assumptions made here have been selected as being reasonable, rather than having a complex assumption with its consequent appearance of precision and knowledge.

Table 3

AVERAGE FUTURE LIFETIME BY AGE AND SEX FOR VARIOUS YEARS

Age	U.S. White			Low Mortality, 2000	
	1929-31	1939-41	1948a/	National Resources Planning Board b/	This Study
			Male		
0	59.12	62.81	65.60	72.1	73.20
10	54.96	57.03	58.51	63.9	63.66
20	46.02	47.76	49.07	54.1	53.80
30	37.54	38.80	39.89	44.4	44.10
40	29,32	30.03	30.84	34.9	34.71
50	21.51	21.96	22.55	25.8	25.88
60	14.72	15.05	15.52	17.3	17.97
65	11.77	12.07	12.50	13.4	14 50
70	9.20	9.42	9.94	10.0	11.44
			Female		
0	62.67	67.29	71.31	74.0	76.76
10	57.65	60.85	63.72	65.6	67.07
20	48.52	51.38	54.07	55.7	57.15
30	39.99	42.21	44.56	46.0	47.32
40	31.52	33.25	35.27	36.5	37.69
50	23.41	24.72	26.45	27.2	28.48
60	16.05	17.00	18.38	18.4	20.04
65	12.81	13.56	14.74	14.8	16.24
70	9.98	10.50	11.57	10.7	12.85

a/ Based on rates developed from the abridged life tables in "Vital Statistics of the United States, 1948," National Office of Vital Statistics (page XLIII).

b/ For native whites.

Births per 1000 total population decreased from about 30 in 1910 to a low of 18 in 1933 and then increased to a high of 27 in 1947 from which there has been a small decrease to 25 in 1951.

It is obvious that with such a wide swing, the birth rate assumed for the future would probably have been underestimated in 1940 (when the rate was 19) and might easily be overestimated in 1952. When dealing with mortality, this situation does not exist since the rates have been steadily decreasing throughout the century, and thus it would seem quite reasonable to assume some decrease in the future.

The proponents of assumed high birth rates in the future argue that more families are having children (and a larger average number of children) due to improved economic conditions, and to changes in social, psychological, and other factors.

The proponents of assumed low birth rates in the future argue from an entirely different point of view, namely, that the amount of control over births by individuals due to economic or other conditions is negligible compared to the amount of control of marriages due to nearly the same reasons. Thus, in poor economic times marriages are delayed thus reducing birth rates and number of children per family. When economic conditions improve, marriages not only increase, but the average age at marriage decreases, thus increasing birth rates. This, of course, is based on the birth rate being higher during the early years of marriage than during the later ones. This same argument applies equally well to periods during and after a war. During a war, marriages are deferred due to uncertainty and to absence of prospective bridgrooms, and the resulting increase in marriages after a war, of course, swells the birth rate. Similarly, births are in many instances deferred to the postwar period.

During 1940-51 the birth rates went from nearly the all-time low to the high for this country for this century. For both future assumptions the 1948 rates are used for 1950-54 since experienced fertility in the first half of the 5-year period is at about, or even somewhat above, this level. The high fertility assumption uses the mean of the 1940 and 1948 rates for 1960-64 and subsequent periods. For the low fertility assumption the 1940 rates are used for 1960-64 and all subsequent periods. In both cases, the 1955-59 rates are obtained by linear interpolation between the 1950-54 rates and the ultimate ones. Table 4 shows these assumed rates.

Immigration Assumptions

The net immigration of aliens to the United States for 1940-50 by 5-year age groups was supplied by the Immigration and Naturalization Service of the Department of Justice. These data showed a net immigration in 1940 of about 50,000, dropping to about 20,000 in 1943, and

Table 4

ANNUAL FERTILITY RATES (PER 1000) BY AGE OF WOMAN, FOR VARIOUS YEARS

Age	1950-54	1955-59		1960-64 and Subsequent	
		Low Fertility	High Fertility	Low Fertility	High Fertility
10-14	.9	.8	.8	.6	.8
15-19	79.7	64.3	72.0	48.9	64.3
20-24	192.8	158.9	175.8	125.0	158.9
25-29	160.3	137.2	148.8	114.1	137.2
30-34	100.3	88.7	94.5	77.1	88.7
35-39	53.3	47.6	50.4	41.8	47.6
40-44	15.1	14.5	14.8	13.9	14.5

increasing thereafter to about 220,000 in 1950. In all years there were more females than males. However, in 1950 there were nearly the same number.

The population projections assume a total net immigration of 500,000 at the end of each 5-year period after 1950. This is slightly more than 100,000 per year due to mortality losses in the 5-year period and is roughly the average number during 1940-50. An equal number of male and female net immigrants are assumed, even though the data show more females than males since the period 1940-50 was biased by the war and many of the female immigrants were "war brides."

The age distribution assumed is that for the 1950 experience, with no difference for men and women being taken since there was no significant difference in the actual data. The age distribution for the assumed 500,000 net immigrants at the end of each 5-year period is as follows (in thousands):

Age	Number	Age	Number	Age	Number
0-4	48	25-29	76	50-54	24
5-9	30	30-34	46	55-59	14
10-14	24	35-39	50	60-64	8
15-19	36	40-44	40	65-69	4
20-24	66	45-49	32	70-74	2

C. RESULTING PROJECTIONS

Projections A and B were prepared for the basic purpose of presenting population estimates that would show a plausible range in the absolute number of persons involved. The assumptions of Projection A (see Table 1 for general summary) were "pessimistic" in predicating low fertility and high mortality, while the assumptions of Projection B were "optimistic" in utilizing high fertility and low mortality rates.

Population projections that furnish a reasonable range in regard to the absolute populations involved may not necessarily be suitable as projection bases for cost estimates for the old-age and survivors insurance system. For such a purpose the most important factor is the relationship between the aged and productive populations[a/]. Therefore, a second pair of projections was developed. Projection C assumes high fertility and high mortality which produces a relatively low total cost for the old-age and survivors insurance program, while Projection D which assumes low fertility and low mortality has the opposite result.

It should be emphasized that both pairs of projections are not the extreme outside limits possible for the particular type of projection developed. For instance, fertility conceivably could be even lower than the low assumptions or higher than the high assumptions (as has been the case for 1946-51, although most authorities feel that the current level is abnormally high).

All of the projections have been carried out for a century into the future (i.e., until the year 2050). In carrying forward the projections for 50 years beyond the end of this century, it is not believed that such long-range projections can be accurately made. Rather they do indicate that the population can not reach a stage of absolute or relative maturity in the year 2000 and thus show the trends that might be anticipated thereafter. In carrying forward the projections beyond the year 2000, it was assumed that mortality and fertility rates remained level thereafter. Although this is not likely to occur, it seems a reasonable assumption.

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a/ The old-age and survivors insurance program includes monthly old-age benefits (including those to aged survivors) and monthly benefits for surviving orphans and their widowed mothers plus lump-sums for deaths. The cost for the old-age monthly benefits predominates. Therefore, estimates based on low mortality assumptions, which yield relatively more aged persons, will show a higher total cost, since the larger cost for benefits to the aged will far more than offset the lower cost for young survivor benefits.

Table 5 summarizes population data for the past 100 years according to the various censuses showing four broad age groups. During this time, the total population showed a 6-fold growth, while the aged population increased 20-fold. The slowest growth was for those under age 20, but even here there was a 4-fold growth. The aged as a percentage of the total population represented only 2½% in 1850 as contrasted with over 8% in 1950.

Table 6 summarizes the four illustrative projections for four broad age groups for various years in the future, while Tables 7 and 8, correspondingly, gives the total population and male population by quinquennial age groups for each 5 years up to 2000 and for 2025 and 2050. The total population shows rather diverse trends under the four projections (see Chart 1), but all show a continuous increase. Projection A, as would be expected from the assumptions made, results in the least increase, while Projection D shows only slightly more. Under both of these projections, the increase in the next 50 years is roughly 50%, while in the following 50 years there is only about a 10% rise.

Both Projections B and C show continuously and rapidly growing populations, with the former being somewhat higher because it involves the low mortality assumption. In 50 years, the total population according to these projections will be around 250 million or, roughly, a 60% increase, while by the end of a century, the total population will be about 2½ times as large.

In considering the results of the four porjections, it is noteworthy that the fertility assumptions made have considerably more influence than the mortality assumptions. Thus Projections A and D, based on low fertility, are quite close together, as likewise are Projections B and C, based on high fertility. It should be emphasized, however, that the relatively small range resulting from the different mortality assumptions is not intended to indicate that mortality can be so closely estimated so as to fall within these narrow limitations. However, it does seem clear that mortality (barring any unusual or unforeseen circumstances) will have much less variability in the future than fertility.

The population under age 20 is, of course, materially affected by the fertility assumptions made. Thus in Projections A and D, which involve low fertility, the number of children (under 20) remains remarkably constant from 1960 on--at a level of roughly 60 million, or some 6½ million above the 1950 figure (but only about 3 million above the corresponding figure for the middle of 1952). On the other hand, Projections B and C involving high fertility assumptions show a steadily increasing child population, with the number a century hence being well more than double the current figure. In fact, under these two projections, there will be as many children in 2050 as there were persons of all ages in the 1930 census.

The productive age groups 20-44 and 45-64 show the same general trends, except that they are deferred for a number of years. For instance, the age group 45-64 shows relatively little variation in the four projections up to the year 1955, since all persons in that group are already born. However, after that time the varying birth assumptions have a considerable effect.

Table 5

POPULATION BY AGE GROUPS ACCORDING TO PAST CENSUSES, 1850-1950

Year	Population (in thousands)					Aged as % of Total
	Under 20[a]	20-44	45-64	65 & Over	Total	
1850	12,168	8,126	2,315	582	23,191	2.5%
1860	16,122	11,207	3,312	802	31,443	2.6
1870	19,159	13,643	4,602	1,154	38,558	3.0
1880	24,121	18,006	6,305	1,724	50,156	3.4
1890	28,875	23,115	8,209	2,423	62,622	3.9
1900	33,770	28,708	10,428	3,089	75,995	4.1
1910	38,634	35,933	13,448	3,957	91,972	4.3
1920	43,104	40,613	17,054	4,940	105,711	4.7
1930	47,645	47,059	21,431	6,640	122,775	5.4
1940	45,306	51,260	26,084	9,019	131,669	6.8
1950	51,099	56,691	30,637	12,270	150,697	8.1

a/ As reported; not adjusted for underenumeration of children.

Note: Data relate to continental United States only. Persons of unknown age are pro-rated among the various age groups.

Table 6

POPULATION BY AGE GROUPS FOR FOUR ILLUSTRATIVE PROJECTIONS[a], 1950-2050
(In thousand of persons)

Year	Under 20[b]	20-44	45-64	65 & Over	Total	Aged as % of Total
			Actual Data			
1950	53,490	57,974	31,038	12,398	154,900	8.0
			Projection A			
1960	62,822	58,181	36,447	15,405	172,855	8.9
1970	58,195	64,710	41,465	18,357	182,727	10.0
1980	57,141	73,555	42,028	22,006	194,730	11.3
1990	60,646	74,683	42,992	25,289	203,610	12.4
2000	59,265	71,242	53,861	25,829	210,197	12.3
2025	60,916	74,097	51,855	34,854	221,722	15.7
2050	62,018	75,833	53,636	34,038	225,525	15.1
			Projection B			
1960	64,203	58,207	36,504	15,489	174,403	8.9
1970	65,635	64,828	41,683	18,705	190,851	9.8
1980	71,036	75,174	42,469	22,804	211,483	10.8
1990	79,217	82,477	43,691	26,732	232,117	11.5
2000	84,561	86,826	55,090	27,979	254,456	11.0
2025	104,805	108,325	66,132	39,669	318,931	12.4
2050	128,938	133,566	81,906	47,879	392,289	12.2
			Projection C			
1960	64,102	58,181	36,447	15,405	174,135	8.8
1970	65,289	64,710	41,465	18,357	189,821	9.7
1980	70,341	74,801	42,028	22,006	209,176	10.5
1990	78,080	81,664	42,992	25,289	228,025	11.1
2000	82,897	85,427	53,856	25,829	248,009	10.4
2025	101,464	105,114	63,546	35,745	305,869	11.7
2050	123,272	128,001	77,616	42,413	371,302	11.4
			Projection D			
1960	62,919	58,207	36,504	15,489	173,119	8.9
1970	58,498	64,828	41,683	18,705	183,714	10.2
1980	57,714	73,910	42,469	22,804	196,897	11.6
1990	61,513	75,421	43,691	26,732	207,357	12.9
2000	60,450	72,412	55,090	27,979	215,931	13.0
2025	62,898	76,345	53,975	38,709	231,927	16.7
2050	64,816	79,079	56,601	38,475	238,971	16.1

a/ See Table 1 and text for bases of the projections.
b/ Adjusted for underenumeration of children.

Note: These data relate to the total United States and not merely to the continental United States.

Table 7-A

TOTAL UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION A
HIGH MORTALITY AND LOW FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	17,434	17,372	14,659	12,576	13,857	15,207	15,684	15,243	14,676	14,576	14,881	15,223	15,571
5-9	13,607	17,331	17,278	14,591	12,527	13,807	15,155	15,636	15,203	14,643	14,548	15,156	15,517
10-14	11,460	13,593	17,308	17,257	14,579	12,522	13,781	15,147	15,628	15,198	14,641	15,229	15,494
15-19	10,989	11,450	13,577	17,280	17,232	14,566	12,521	13,775	15,139	15,621	15,195	15,308	15,436
20-24	11,862	10,989	11,449	13,567	17,254	17,209	14,568	12,529	13,780	15,141	15,625	15,210	15,331
25-29	12,538	11,855	10,991	11,450	13,557	17,225	17,191	14,562	12,538	13,786	15,144	14,876	15,212
30-34	11,756	12,485	11,809	10,954	11,412	13,507	17,152	17,122	14,514	12,505	13,748	14,530	15,128
35-39	11,448	11,678	12,402	11,736	10,892	11,348	13,425	17,039	17,073	14,433	12,446	14,548	15,122
40-44	10,370	11,299	11,530	12,246	11,595	10,767	11,219	13,270	16,638	16,818	14,279	14,933	15,040
45-49	9,207	10,143	11,056	11,287	11,992	11,361	10,556	11,002	13,015	16,513	16,503	15,060	14,667
50-54	8,383	8,871	9,779	10,666	10,898	11,585	10,985	10,214	10,652	12,605	15,999	14,156	13,906
55-59	7,324	7,903	8,372	9,238	10,088	10,319	10,980	10,422	9,698	10,123	11,989	12,279	12,972
60-64	6,124	6,697	7,240	7,681	8,487	9,283	9,507	10,130	9,627	8,966	9,370	10,360	12,091
65-69	5,055	5,318	5,831	6,320	6,720	7,439	8,157	8,369	8,935	8,506	7,933	10,625	11,107
70-74	3,448	4,066	4,289	4,719	5,133	5,475	6,078	6,686	6,878	7,363	7,026	10,337	9,435
75-79	2,215	2,484	2,943	3,114	3,442	3,759	4,026	4,485	4,952	5,112	5,490	7,718	6,828
80-84	1,098	1,346	1,518	1,809	1,923	2,137	2,346	2,525	2,825	3,135	3,250	3,877	3,963
85-89	442	512	633	719	864	923	1,034	1,144	1,239	1,395	1,559	1,631	1,800
90-94	121	141	164	205	235	286	308	348	389	425	483	544	726
95+	19	22	27	32	40	46	57	62	71	80	88	122	179
Total	154,900	165,555	172,855	177,447	182,727	188,771	194,730	199,710	203,610	206,944	210,197	221,722	225,525
0-19	53,490	59,746	62,822	61,704	58,195	56,102	57,141	59,801	60,646	60,038	59,265	60,916	62,018
20-64	89,012	91,920	94,628	98,825	106,175	112,604	115,583	116,290	117,675	120,890	125,103	125,952	129,469
65+	12,398	13,889	15,405	16,918	18,357	20,065	22,006	23,619	25,289	26,016	25,829	34,854	34,038

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 7-B

TOTAL UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION B
LOW MORTALITY AND HIGH FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	17,434	17,395	15,994	15,400	17,072	18,857	19,833	20,121	20,479	21,357	22,586	27,789	34,205
5-9	13,607	17,336	17,313	15,935	15,356	17,032	18,823	19,807	20,106	20,476	21,364	26,619	32,839
10-14	11,460	13,593	17,316	17,297	15,926	15,351	17,029	18,820	19,808	20,112	20,485	25,631	31,562
15-19	10,989	11,451	13,580	17,295	17,281	15,919	15,351	17,030	18,824	19,816	20,126	24,766	30,332
20-24	11,862	10,989	11,454	13,578	17,282	17,277	15,927	15,369	17,051	18,849	19,848	23,836	29,102
25-29	12,538	11,857	10,994	11,462	13,580	17,271	17,275	15,939	15,391	17,074	18,876	22,679	27,850
30-34	11,756	12,486	11,816	10,963	11,433	13,543	17,218	17,230	15,907	15,369	17,052	21,419	26,622
35-39	11,448	11,678	12,408	11,750	10,910	11,381	13,480	17,132	17,153	15,848	15,322	20,457	25,529
40-44	10,370	11,301	11,535	12,263	11,623	10,802	11,274	13,356	16,975	17,008	15,728	19,934	24,463
45-49	9,207	10,146	11,066	11,306	12,028	11,413	10,619	11,092	13,147	16,718	16,767	19,351	23,192
50-54	8,383	8,874	9,792	10,696	10,944	11,659	11,080	10,325	10,800	12,815	16,313	17,948	21,527
55-59	7,324	7,907	8,388	9,275	10,152	10,410	11,112	10,582	9,880	10,354	12,309	15,620	19,581
60-64	6,124	6,702	7,258	7,720	8,559	9,394	9,658	10,336	9,864	9,234	9,701	13,213	17,606
65-69	5,055	5,323	5,852	6,366	6,799	7,567	8,339	8,606	9,243	8,854	8,317	12,320	15,593
70-74	3,448	4,071	4,310	4,768	5,219	5,605	6,272	6,952	7,212	7,788	7,498	11,289	13,019
75-79	2,215	2,488	2,961	3,157	3,519	3,880	4,195	4,726	5,276	5,509	5,988	8,662	9,523
80-84	1,098	1,349	1,531	1,840	1,979	2,227	2,479	2,704	3,073	3,461	3,644	4,510	5,712
85-89	442	514	641	736	898	977	1,114	1,256	1,388	1,596	1,819	1,998	2,716
90-94	121	142	167	212	248	308	341	396	454	510	597	714	1,054
95+	19	22	27	33	43	50	64	73	86	101	116	176	262
Total	154,900	165,624	174,403	182,052	190,851	200,923	211,483	221,852	232,117	242,849	254,456	318,931	392,289
0-19	53,490	59,775	64,203	65,927	65,635	67,159	71,036	75,778	79,217	81,761	84,561	104,805	128,938
20-64	89,012	91,940	94,711	99,013	106,511	113,150	117,643	121,361	126,168	133,269	141,916	174,457	215,472
65+	12,398	13,909	15,489	17,112	18,705	20,614	22,804	24,713	26,732	27,819	27,979	39,669	47,879

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 7-C

TOTAL UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION C
HIGH MORTALITY AND HIGH FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	17,434	17,372	15,939	15,319	16,955	18,693	19,619	19,857	20,161	20,971	22,120	26,880	32,676
5-9	13,607	17,331	17,278	15,863	15,254	16,886	18,622	19,551	19,795	20,105	20,919	25,740	31,361
10-14	11,460	13,593	17,308	17,257	15,848	15,242	16,871	18,606	19,535	19,781	20,092	24,826	30,190
15-19	10,989	11,450	13,577	17,280	17,232	15,831	15,229	16,855	18,589	19,518	19,766	24,018	29,045
20-24	11,862	10,989	11,449	13,567	17,254	17,209	15,820	15,224	16,847	18,577	19,507	23,126	27,875
25-29	12,538	11,855	10,991	11,450	13,557	17,225	17,185	15,808	15,219	16,836	18,563	21,998	26,683
30-34	11,756	12,485	11,809	10,954	11,412	13,507	17,152	17,116	15,752	15,170	16,780	20,786	25,519
35-39	11,448	11,678	12,402	11,736	10,892	11,348	13,425	17,039	17,008	15,660	15,088	19,863	24,481
40-44	10,370	11,299	11,530	12,246	11,595	10,767	11,219	13,270	16,838	16,813	15,489	19,341	23,443
45-49	9,207	10,143	11,056	11,287	11,992	11,361	10,556	11,002	13,015	16,513	16,498	18,743	22,175
50-54	8,383	8,871	9,779	10,666	10,898	11,585	10,985	10,214	10,652	12,605	15,999	17,310	20,479
55-59	7,324	7,903	8,372	9,238	10,088	10,319	10,980	10,422	9,698	10,123	11,989	14,957	18,491
60-64	6,124	6,697	7,240	7,681	8,487	9,283	9,507	10,130	9,627	8,966	9,370	12,536	16,471
65-69	5,055	5,318	5,831	6,320	6,720	7,439	8,157	8,369	8,935	8,506	7,933	11,519	14,366
70-74	3,448	4,066	4,289	4,719	5,133	5,475	6,078	6,686	6,878	7,363	7,026	10,334	11,732
75-79	2,215	2,484	2,943	3,114	3,442	3,759	4,026	4,485	4,952	5,112	5,490	7,718	8,345
80-84	1,098	1,346	1,518	1,809	1,923	2,137	2,346	2,525	2,825	3,135	3,250	3,877	4,828
85-89	442	512	633	719	864	923	1,034	1,144	1,239	1,395	1,559	1,631	2,178
90-94	121	141	164	205	235	286	308	348	389	425	483	544	786
95+	19	22	27	32	40	46	57	62	71	80	88	122	178
Total	154,900	165,555	174,135	181,462	189,821	199,321	209,176	218,713	228,025	237,654	248,009	305,869	371,302
0-19	53,490	59,746	64,102	65,719	65,289	66,652	70,341	74,869	78,080	80,375	82,897	101,464	123,272
20-64	89,012	91,920	94,628	98,825	106,175	12,604	116,829	120,225	124,656	131,263	139,283	168,660	205,617
65+	12,398	13,889	15,405	16,918	18,357	20,065	22,006	23,619	25,289	26,016	25,829	35,745	42,413

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 7-D

TOTAL UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION D
LOW MORTALITY AND LOW FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	17,434	17,395	14,710	12,642	13,954	15,341	15,850	15,439	14,907	14,849	15,197	15,733	16,285
5-9	13,607	17,336	17,313	14,658	12,611	13,926	15,318	15,836	15,434	14,912	14,863	15,667	16,232
10-14	11,460	13,593	17,316	17,297	14,652	12,611	13,928	15,321	15,841	15,444	14,926	15,718	16,187
15-19	10,989	11,451	13,580	17,295	17,281	14,649	12,618	13,935	15,331	15,855	15,464	15,780	16,112
20-24	11,862	10,989	11,454	13,578	17,282	17,277	14,663	12,644	13,964	15,363	15,894	15,673	15,998
25-29	12,538	11,857	10,994	11,462	13,580	17,271	17,275	14,680	12,675	13,997	15,399	15,335	15,866
30-34	11,756	12,486	11,816	10,963	11,433	13,543	17,218	17,230	14,654	12,665	13,987	14,975	15,770
35-39	11,448	11,678	12,408	11,750	10,910	11,381	13,480	17,132	17,153	14,604	12,635	14,982	15,759
40-44	10,370	11,301	11,535	12,263	11,623	10,802	11,274	13,356	16,975	17,008	14,497	15,380	15,686
45-49	9,207	10,146	11,066	11,306	12,028	11,413	10,619	11,092	13,147	16,718	16,767	15,543	15,329
50-54	8,383	8,874	9,792	10,696	10,944	11,659	11,080	10,325	10,800	12,815	16,313	14,678	14,617
55-59	7,324	7,907	8,388	9,275	10,152	10,410	11,112	10,582	9,880	10,354	12,309	12,839	13,734
60-64	6,124	6,702	7,258	7,720	8,559	9,394	9,658	10,336	9,864	9,234	9,701	10,915	12,921
65-69	5,055	5,323	5,852	6,366	6,799	7,567	8,339	8,606	9,243	8,854	8,317	11,360	12,046
70-74	3,448	4,071	4,310	4,768	5,219	5,605	6,272	6,952	7,212	7,788	7,498	11,289	10,465
75-79	2,215	2,488	2,961	3,157	3,519	3,880	4,195	4,726	5,276	5,509	5,988	8,662	7,790
80-84	1,098	1,349	1,531	1,840	1,979	2,227	2,479	2,704	3,073	3,461	3,644	4,510	4,697
85-89	442	514	641	736	898	977	1,114	1,256	1,388	1,596	1,819	1,998	2,244
90-94	121	142	167	212	248	308	341	396	454	510	597	714	971
95+	19	22	27	33	43	50	64	73	86	101	116	176	262
Total	154,900	165,624	173,119	178,017	183,714	190,291	196,897	202,621	207,357	211,637	215,931	231,927	238,971
0-19	53,490	59,775	62,919	61,892	58,498	56,527	57,714	60,531	61,513	61,060	60,450	62,898	64,816
20-64	89,012	91,940	94,711	99,013	106,511	113,150	116,379	117,377	119,112	122,758	127,502	130,320	135,680
65+	12,398	13,909	15,489	17,112	18,705	20,614	22,804	24,713	26,732	27,819	27,979	38,709	38,475

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 8-A

MALE UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION A
HIGH MORTALITY AND LOW FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	8,914	8,890	7,504	6,439	7,096	7,789	8,035	7,811	7,521	7,471	7,629	7,805	7,983
5-9	6,917	8,852	8,833	7,462	6,408	7,064	7,756	8,004	7,785	7,499	7,452	7,766	7,951
10-14	5,832	6,906	8,835	8,817	7,452	6,402	7,057	7,748	7,996	7,779	7,495	7,801	7,936
15-19	5,543	5,820	6,890	8,811	8,795	7,438	6,394	7,047	7,737	7,986	7,771	7,836	7,901
20-24	5,845	5,532	5,808	6,872	8,782	8,768	7,423	6,388	7,039	7,727	7,977	7,775	7,837
25-29	6,141	5,830	5,522	5,797	6,854	8,751	8,740	7,408	6,382	7,031	7,717	7,593	7,765
30-34	5,768	6,104	5,797	5,494	5,768	6,817	8,699	8,691	7,372	6,355	7,001	7,403	7,710
35-39	5,635	5,717	6,050	5,749	5,451	5,723	6,761	8,624	8,618	7,316	6,312	7,396	7,694
40-44	5,165	5,541	5,624	5,953	5,660	5,370	5,639	6,661	8,495	8,492	7,215	7,567	7,628
45-49	4,597	5,019	5,387	5,471	5,794	5,513	5,234	5,499	6,497	8,287	8,290	7,589	7,401
50-54	4,184	4,379	4,785	5,140	5,226	5,539	5,277	5,016	5,275	6,236	7,960	7,071	6,958
55-59	3,678	3,875	4,061	4,444	4,781	4,868	5,167	4,931	4,694	4,944	5,852	6,061	6,406
60-64	3,073	3,280	3,463	3,636	3,987	4,297	4,384	4,663	4,459	4,253	4,489	5,010	5,862
65-69	2,451	2,579	2,760	2,922	3,077	3,383	3,657	3,741	3,991	3,827	3,661	5,002	5,245
70-74	1,646	1,887	1,993	2,140	2,274	2,404	2,653	2,879	2,956	3,165	3,046	4,696	4,301
75-79	1,027	1,125	1,296	1,374	1,482	1,581	1,680	1,862	2,029	2,093	2,250	3,348	2,976
80-84	497	588	647	749	799	866	928	992	1,105	1,210	1,255	1,579	1,635
85-89	185	216	258	285	333	357	390	421	453	508	560	620	692
90-94	47	55	64	77	86	102	110	121	132	143	162	188	258
95+	7	8	10	12	14	16	19	21	23	25	27	38	59
Total	77,152	82,203	85,587	87,644	90,119	93,048	96,003	98,528	100,559	102,347	104,121	110,144	112,198
0-19	27,206	30,468	32,062	31,529	29,751	28,693	29,242	30,610	31,039	30,735	30,347	31,208	31,771
20-64	44,086	45,277	46,497	48,556	52,303	55,646	57,324	57,881	58,831	60,641	62,813	63,465	65,261
65+	5,860	6,458	7,028	7,559	8,065	8,709	9,437	10,037	10,689	10,971	10,961	15,471	15,166

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 8-B

MALE UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION B
LOW MORTALITY AND HIGH FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	8,914	8,903	8,190	7,889	8,749	9,666	10,169	10,320	10,505	10,958	11,590	14,261	17,554
5-9	6,917	8,855	8,853	8,153	7,861	8,723	9,643	10,151	10,308	10,500	10,959	13,658	16,849
10-14	5,832	6,906	8,840	8,840	8,144	7,855	8,718	9,638	10,148	10,308	10,502	13,148	16,190
15-19	5,543	5,821	6,892	8,821	8,824	8,134	7,849	8,713	9,635	10,147	10,311	12,699	15,554
20-24	5,845	5,532	5,812	6,879	8,801	8,810	8,128	7,850	8,716	9,640	10,157	12,216	14,916
25-29	6,141	5,831	5,524	5,806	6,869	8,782	8,797	8,124	7,852	8,719	9,646	11,613	14,262
30-34	5,768	6,105	5,801	5,499	5,782	6,840	8,742	8,762	8,097	7,831	8,698	10,955	13,619
35-39	5,635	5,717	6,054	5,757	5,461	5,744	6,795	8,682	8,707	8,053	7,794	10,440	13,038
40-44	5,165	5,542	5,627	5,963	5,676	5,390	5,673	6,713	8,579	8,611	7,972	10,146	12,462
45-49	4,597	5,021	5,393	5,483	5,816	5,544	5,272	5,555	6,579	8,415	8,457	9,808	11,772
50-54	4,184	4,381	4,794	5,160	5,256	5,587	5,337	5,087	5,371	6,372	8,164	9,042	10,868
55-59	3,678	3,878	4,073	4,470	4,825	4,930	5,256	5,037	4,816	5,100	6,068	7,801	9,806
60-64	3,073	3,284	3,476	3,665	4,038	4,376	4,489	4,805	4,623	4,438	4,719	6,514	8,710
65-69	2,451	2,582	2,775	2,954	3,133	3,471	3,783	3,903	4,201	4,065	3,925	5,965	7,582
70-74	1,646	1,890	2,006	2,172	2,330	2,489	2,778	3,051	3,171	3,439	3,352	5,327	6,176
75-79	1,027	1,128	1,306	1,399	1,528	1,653	1,781	2,005	2,222	2,329	2,548	3,939	4,362
80-84	497	589	654	765	828	914	999	1,087	1,236	1,384	1,466	1,943	2,497
85-89	185	217	261	293	348	382	427	473	522	601	682	809	1,117
90-94	47	55	65	80	91	110	123	140	158	177	208	264	402
95+	7	8	10	12	15	17	21	24	28	32	37	58	92
Total	77,152	82,245	86,406	90,060	94,375	99,417	104,780	110,120	115,474	121,119	127,255	160,606	197,828
0-19	27,206	30,485	32,775	33,703	33,578	34,378	36,379	38,822	40,596	41,913	43,362	53,766	66,147
20-64	44,086	45,291	46,554	48,682	52,524	56,003	58,489	60,615	63,340	67,179	71,675	88,535	109,453
65+	5,860	6,469	7,077	7,675	8,273	9,036	9,912	10,683	11,538	12,027	12,218	18,305	22,228

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 8-C

MALE UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION C
HIGH MORTALITY AND HIGH FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	8,914	8,890	8,159	7,843	8,683	9,575	10,051	10,175	10,332	10,749	11,340	13,782	16,754
5-9	6,917	8,852	8,833	8,112	7,803	8,640	9,531	10,009	10,136	10,296	10,716	13,192	16,071
10-14	5,832	6,906	8,835	8,817	8,100	7,793	8,628	9,518	9,996	10,124	10,285	12,717	15,465
15-19	5,543	5,820	6,890	8,811	8,795	8,083	7,779	8,612	9,501	9,979	10,108	12,294	14,867
20-24	5,845	5,532	5,808	6,872	8,782	8,768	8,064	7,764	8,595	9,481	9,960	11,823	14,252
25-29	6,141	5,830	5,522	5,797	6,854	8,751	8,740	8,044	7,749	8,576	9,460	11,229	13,622
30-34	5,768	6,104	5,797	5,494	5,768	6,817	8,699	8,691	8,003	7,712	8,535	10,592	13,011
35-39	5,635	5,717	6,050	5,749	5,451	5,723	6,761	8,624	8,618	7,940	7,655	10,099	12,456
40-44	5,165	5,541	5,624	5,953	5,660	5,370	5,639	6,661	8,495	8,492	7,829	9,800	11,891
45-49	4,597	5,019	5,387	5,471	5,794	5,513	5,234	5,499	6,497	8,287	8,290	9,447	11,192
50-54	4,184	4,379	4,785	5,140	5,226	5,539	5,277	5,016	5,275	6,236	7,960	8,649	10,249
55-59	3,678	3,875	4,061	4,444	4,781	4,868	5,167	4,931	4,694	4,944	5,852	7,374	9,134
60-64	3,073	3,280	3,463	3,636	3,987	4,297	4,384	4,663	4,459	4,253	4,489	6,064	7,986
65-69	2,451	2,579	2,760	2,922	3,077	3,383	3,657	3,741	3,991	3,827	3,661	5,425	6,783
70-74	1,646	1,887	1,993	2,140	2,274	2,404	2,653	2,879	2,956	3,165	3,046	4,696	5,349
75-79	1,027	1,125	1,296	1,374	1,482	1,581	1,680	1,862	2,029	2,093	2,250	3,348	3,638
80-84	497	588	647	749	799	866	928	992	1,105	1,210	1,255	1,579	1,990
85-89	185	216	258	285	333	357	390	421	453	508	560	620	838
90-94	47	55	64	77	86	102	110	121	132	143	162	188	279
95+	7	8	10	12	14	16	19	21	23	25	27	38	59
Total	77,152	82,203	86,242	89,698	93,749	98,446	103,391	108,244	113,039	118,040	123,440	152,956	185,886
0-19	27,206	30,468	32,717	33,583	33,381	34,091	35,989	38,314	39,965	41,148	42,449	51,985	63,157
20-64	44,086	45,277	46,497	48,556	52,303	55,646	57,965	59,893	62,385	65,921	70,030	85,077	103,793
65+	5,860	6,458	7,028	7,559	8,065	8,709	9,437	10,037	10,689	10,971	10,961	15,894	18,936

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Table 8-D

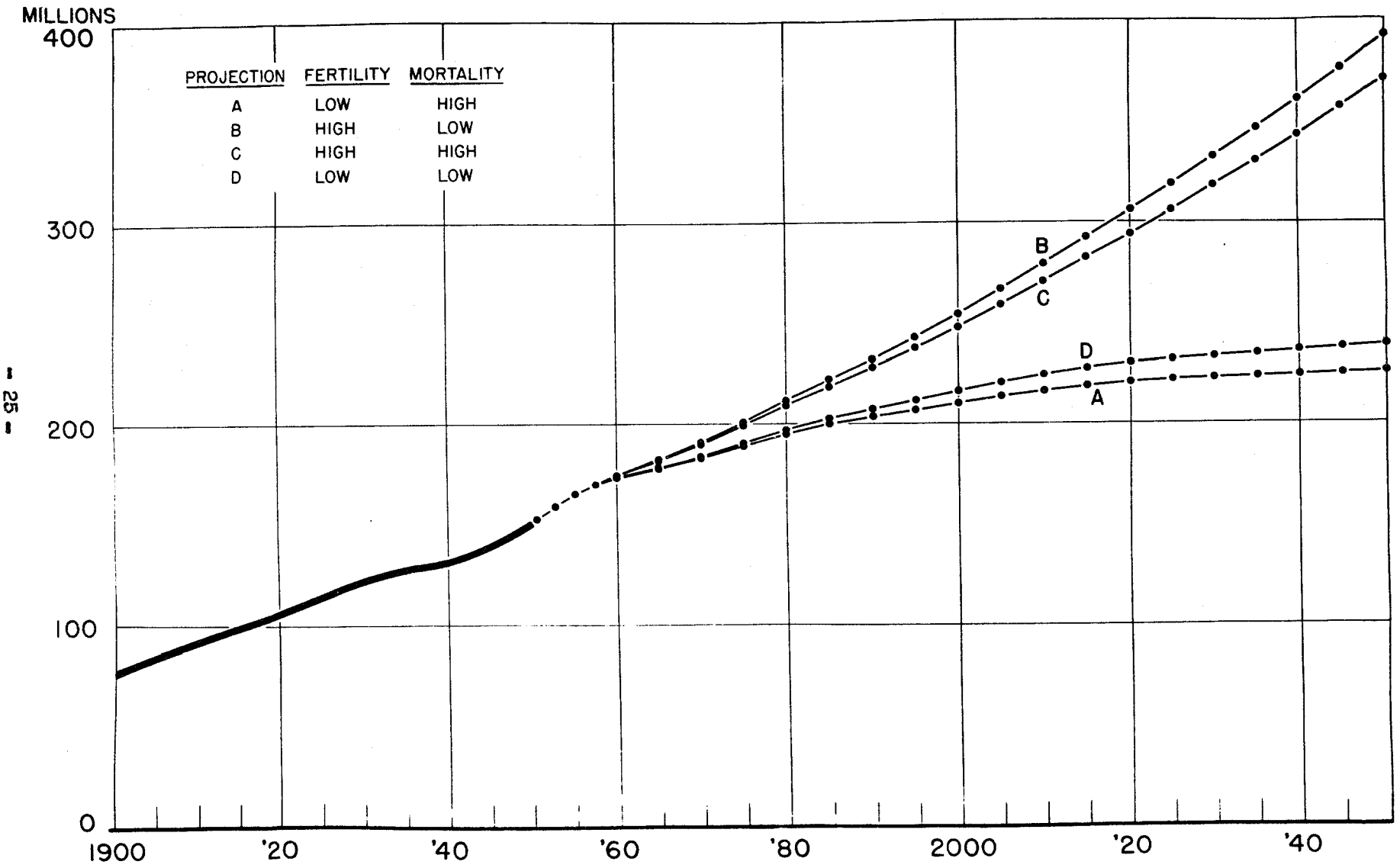
MALE UNITED STATES POPULATION BY QUINQUENNIAL AGE GROUPS, PROJECTION D
LOW MORTALITY AND LOW FERTILITY ASSUMPTIONS, 1950-2050
(In thousands of persons)

Age	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2025	2050
0-4	8,914	8,903	7,532	6,476	7,151	7,864	8,127	7,918	7,647	7,618	7,798	8,074	8,357
5-9	6,917	8,855	8,853	7,499	6,455	7,132	7,848	8,116	7,912	7,647	7,623	8,038	8,328
10-14	5,832	6,906	8,840	8,840	7,492	6,452	7,130	7,847	8,116	7,915	7,652	8,063	8,303
15-19	5,543	5,821	6,892	8,821	8,824	7,484	6,451	7,129	7,848	8,119	7,922	8,092	8,262
20-24	5,845	5,532	5,812	6,879	8,801	8,810	7,482	6,457	7,137	7,858	8,134	8,031	8,199
25-29	6,141	5,831	5,524	5,806	6,869	8,782	8,797	7,481	6,465	7,147	7,870	7,851	8,125
30-34	5,768	6,105	5,801	5,499	5,782	6,840	8,742	8,762	7,458	6,452	7,134	7,657	8,066
35-39	5,635	5,717	6,054	5,757	5,461	5,744	6,795	8,682	8,707	7,419	6,426	7,646	8,048
40-44	5,165	5,542	5,627	5,963	5,676	5,390	5,673	6,713	8,579	8,611	7,346	7,826	7,991
45-49	4,597	5,021	5,393	5,483	5,816	5,544	5,272	5,555	6,579	8,415	8,457	7,877	7,779
50-54	4,184	4,381	4,794	5,160	5,256	5,587	5,337	5,087	5,371	6,372	8,164	7,395	7,377
55-59	3,678	3,878	4,073	4,470	4,825	4,930	5,256	5,037	4,816	5,100	6,068	6,411	6,875
60-64	3,073	3,284	3,476	3,665	4,038	4,376	4,489	4,805	4,623	4,438	4,719	5,380	6,392
65-69	2,451	2,582	2,775	2,954	3,133	3,471	3,783	3,903	4,201	4,065	3,925	5,498	5,855
70-74	1,646	1,890	2,006	2,172	2,330	2,489	2,778	3,051	3,171	3,439	3,352	5,327	4,963
75-79	1,027	1,128	1,306	1,399	1,528	1,653	1,781	2,005	2,222	2,329	2,548	3,939	3,568
80-84	497	589	654	765	828	914	999	1,087	1,236	1,384	1,466	1,943	2,053
85-89	185	217	261	293	348	382	427	473	522	601	682	809	923
90-94	47	55	65	80	91	110	123	140	158	177	208	264	370
95+	7	8	10	12	15	17	21	24	28	32	37	58	92
Total	77,152	82,245	85,748	87,993	90,719	93,971	97,311	100,272	102,796	105,138	107,531	116,179	119,926
0-19	27,206	30,485	32,117	31,636	29,922	28,932	29,556	31,010	31,523	31,299	30,995	32,267	33,250
20-64	44,086	45,291	46,554	48,682	52,524	56,003	57,843	58,579	59,735	61,812	64,318	66,074	68,852
65+	5,860	6,469	7,077	7,675	8,273	9,036	9,912	10,683	11,538	12,027	12,218	17,838	17,824

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

CHART I

U.S. TOTAL POPULATION, 1900-2050



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Next, there may be considered in more detail the age group 65 and over, since it is the most important in regard to old-age benefit costs. Projections A and C produce identical figures for the next 65 years since they involve the same (high) mortality assumptions and since all those who will be over 65 before then are already born (see Chart 2). Likewise Projections B and D (both assuming low mortality) are the same for 65 years, until the year 2015. All curves have a slackening of growth at about 1995, lasting for about 10 years, and then a subsequent rise. This is the effect of the great fluctuations in the number of births during the last 25 years, namely, relatively few births during the depression and relatively many since 1940 (to be discussed in more detail later).

Projections B and C show a steadily increasing number of aged persons with the figures for the year 2050 being roughly 45 million, or almost four times the 1950 figure. On the other hand, the aged population under Projections A and D, following the slight dip around the year 2000, increases for the next 25 years and then more or less levels off at about 35 million, or almost triple the 1950 figure. There is a relatively narrow spread between the four estimates for the next 50 years. Thus for the year 2000, the range is only from 25.8 million to 28.0 million, both of which are slightly more than double the 1950 level.

Considering the aged as a percentage of the total population, over the next 50 years there will be a steady rise from the current 8% to a proportion varying from 10½% for Projection C to 13% for Projection D. In the succeeding 50 years, these percentages will tend to become relatively stabilized but increasing somewhat up to the year 2025 (with the range then being roughly 12% to 16%). Chart 3 shows these percentages.

Perhaps more important than absolute numbers of persons shown by the various projections are the relative age distributions, which separate the total population into three categories: "children", "productive", and "aged". Over the course of the years, the specific numerical boundaries for these three groups have undoubtedly changed and in the future will continue to change. A century ago, children might perhaps have been defined as those under age 12, whereas currently age 18 is generally considered as the boundary. In the future, this age might be moved higher as the period of education is extended. For the general statistical analysis here, uniform age groupings are considered throughout both the past and the future--namely, children are considered as being under 20, the aged as being 65 and over, and the productive as being the remainder of the population. Quite obviously many of those classified other than "productive" are in actuality economic producers. Conversely, many of those between ages 20 and 65 are not productive (such as the permanently and totally disabled). The statistical grouping established here is for the purpose of a rough measure of dependent populations against productive populations.

Data as to the dependent and productive groups for the past 100 years (according to Census data) and the next 100 years (according to these projections) are shown in Table 9 and Chart 4. Children (under 20) as a percentage of the productive group were well over 100% a century ago, but as the country developed and matured, this figure dropped rapidly to

CHART 2

U.S. POPULATION AGED 65 AND OVER, 1900-2050

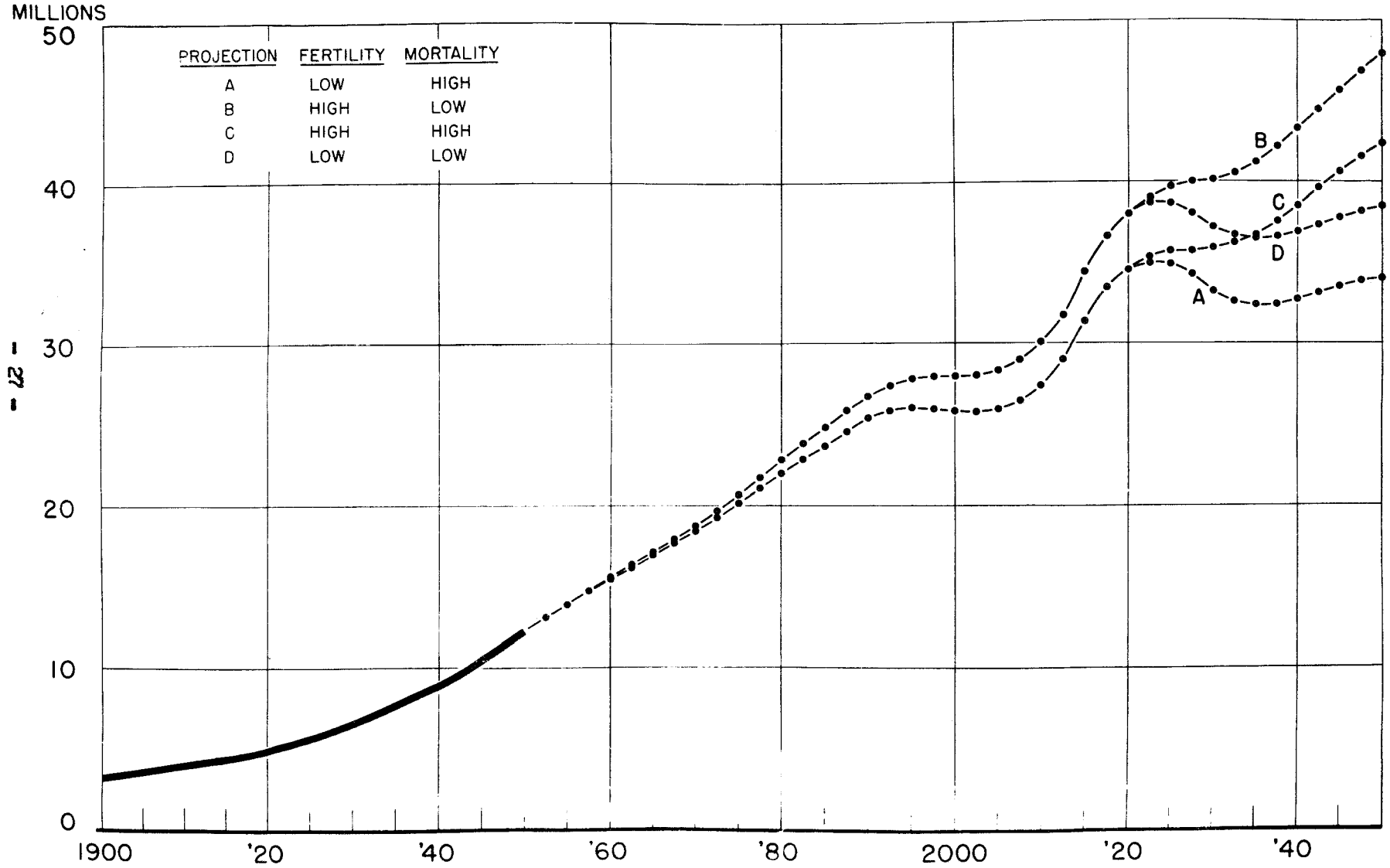

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CHART 3

U. S. POPULATION AGED 65 AND OVER AS PERCENTAGE OF TOTAL POPULATION, 1900-2050

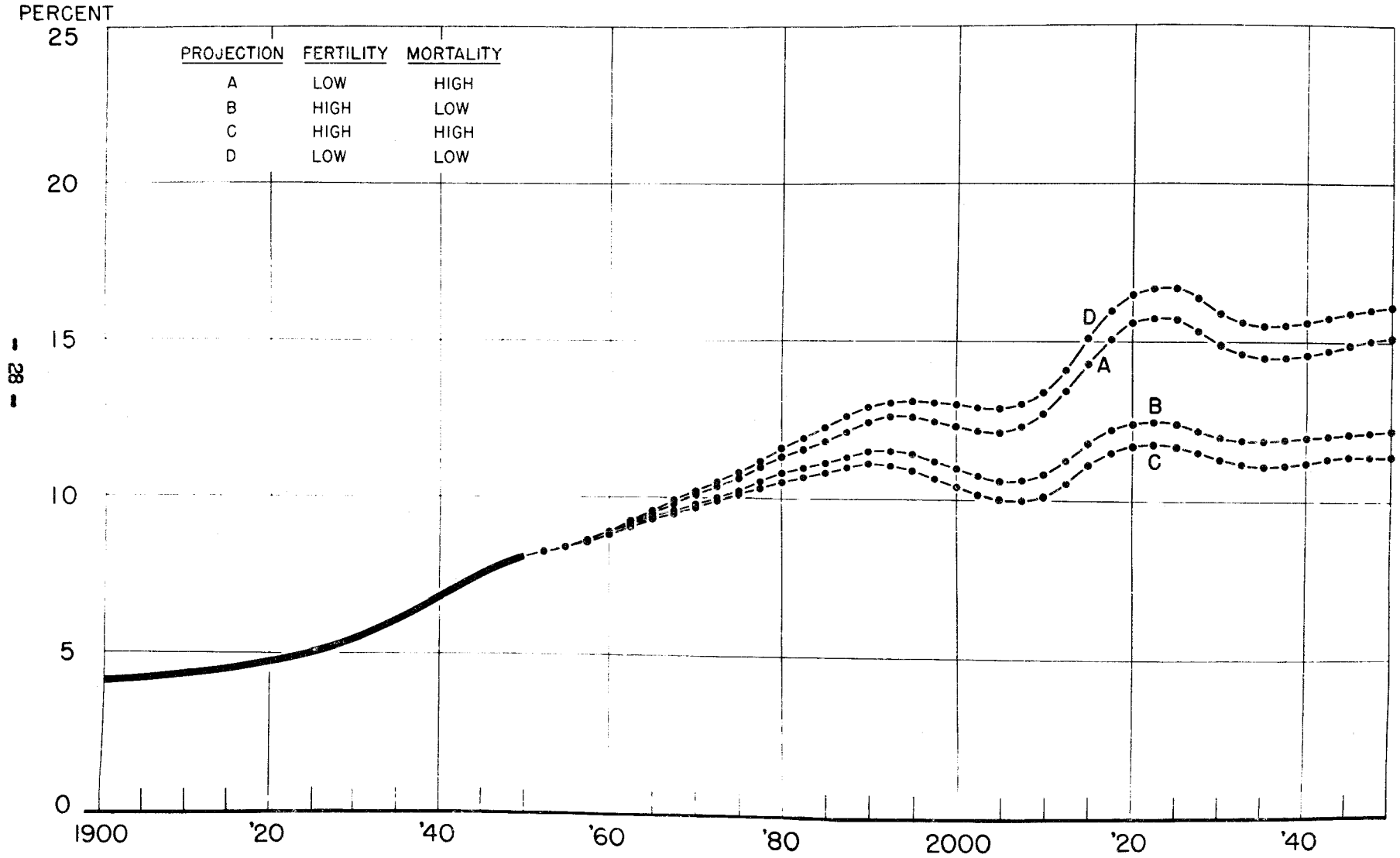

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Table 9

RELATIVE COMPARISON OF DEPENDENT AND PRODUCTIVE GROUPS IN THE UNITED STATES, 1850-2050

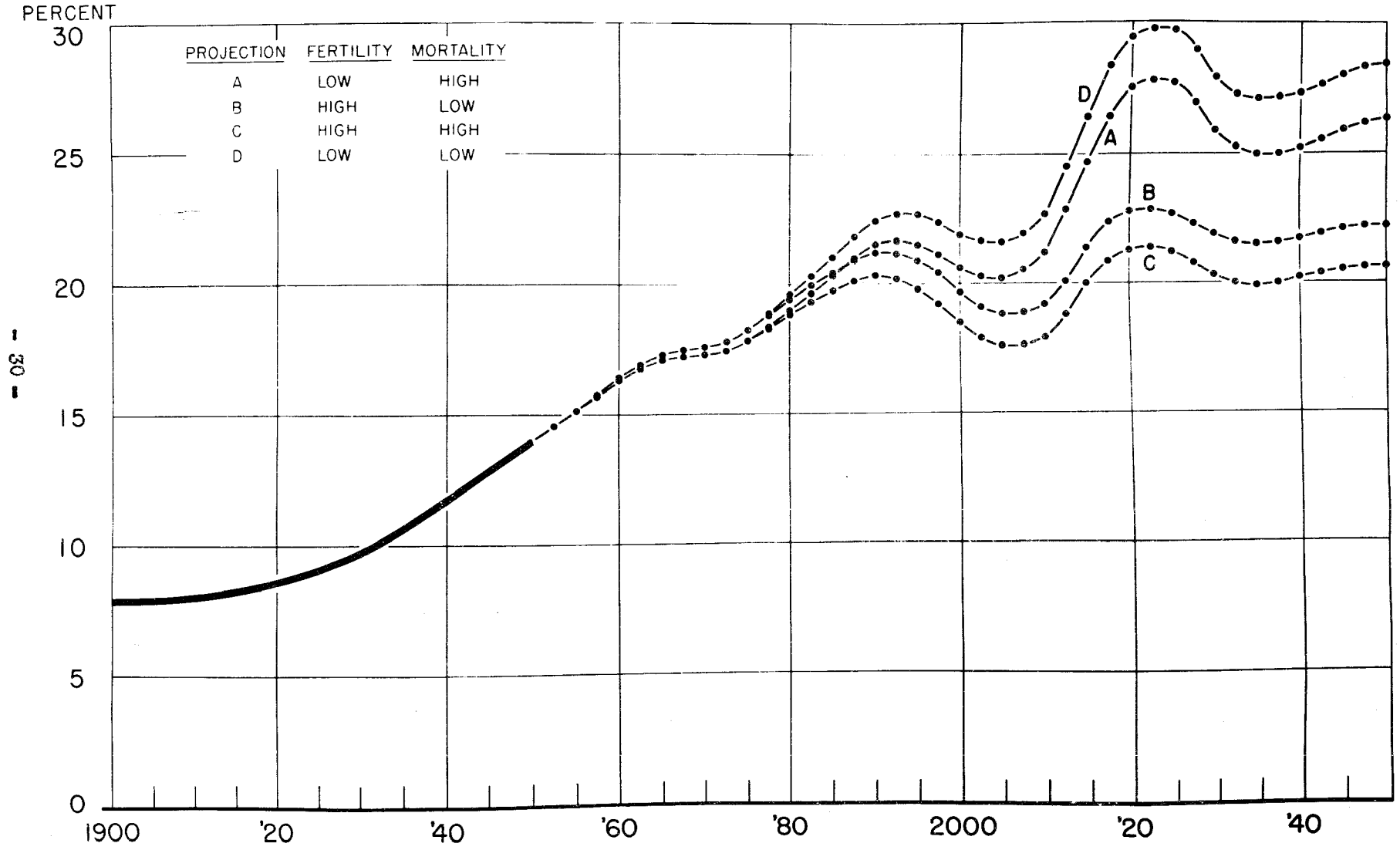
Year	As Percent of Population Aged 20-64		
	Under 20[a]	65 and Over	Children plus Aged
Actual Census Data			
1850	116.5%	5.6%	122.1%
1860	111.0	5.5	116.5
1870	105.0	6.3	111.3
1880	99.2	7.1	106.3
1890	92.2	7.7	99.9
1900	86.3	7.9	94.2
1910	78.2	8.0	86.2
1920	74.7	8.6	83.3
1930	69.6	9.7	79.3
1940	58.6	11.7	70.3
1950	58.5	14.0	72.5
Projection A[b]			
1960	66.4	16.3	82.7
1975	49.8	17.8	67.6
2000	47.4	20.6	68.0
2025	48.4	27.7	76.1
2050	47.9	26.3	74.2
Projection B[b]			
1960	67.8	16.4	84.2
1975	59.4	18.2	77.6
2000	59.6	19.7	79.3
2025	60.1	22.7	82.8
2050	59.8	22.2	82.0
Projection C[b]			
1960	67.7	16.3	84.0
1975	59.2	17.8	77.0
2000	59.5	18.5	78.0
2025	60.2	21.2	81.4
2050	60.0	20.6	80.6
Projection D[b]			
1960	66.4	16.4	82.8
1975	50.0	18.2	68.2
2000	47.4	21.9	69.3
2025	48.3	29.7	78.0
2050	47.8	28.4	76.2

a/ Actual census figures not adjusted for underenumeration of children; projections are so adjusted which makes for only a slight difference in the analysis based on this table.

b/ These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

CHART 4

U. S. POPULATION AGED 65 AND OVER AS PERCENTAGE OF POPULATION AGED 20-65, 1900-2050



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slightly less than 60% during the past decade. Under all projections, this proportion will rise during the next decade to a peak of about 65% as the higher number of births during the 1940's and subsequently make themselves felt as against the lower births of the 1930's, which now account for a considerable portion of the child population. After 1960 there will be some decrease in the ratio of children to the productive group, with Projections B and C levelling off at about 60% and Projections A and D at somewhat less than 50%.

The aged related to the productive showed a steadily rising trend beginning at about 5½% a century ago and amounting to about 14% in 1950. The past growth, however, was not steady. The two Censuses following 1890 showed only slightly higher percentages than did that Census. The great amount of immigration (largely at the early productive ages) temporarily dampened the curve, almost offsetting the increase in the absolute number of aged persons. However, after 1920 a significant rise again began as immigration largely ceased and as the previous migrants themselves began to reach the aged group.

In the future, all estimates show that the aged as related to the productive will increase. Thus for Projections A and D an ultimate level of about 28% or 29% will be reached in about 75 years, while for Projections B and C, the corresponding figure is about 21% or 22%.

The combined dependent groups (i.e. children and aged) as related to the productive group showed a steadily decreasing trend through 1940. Since then, there has been a slight rise as both the birth rate rose and the aged population continued its growth. In the next decade there will be a further rise, but thereafter according to these projections there will be a decrease to a lower level for a number of years, followed by an eventual rise. The ultimate levels are close to the 1960 level for Projections B and C, and close to the 1950 level for Projections A and D.

Table 10 shows the sex ratios (i.e. the number of males per 1000 females)for the total population and for the aged population for the four projections as well as for the previous censuses. For the total population, the present sex ratio is currently slightly below 1000. Under all projections, there will be a slight decrease in this ratio over the next 25 years, followed thereafter by a slight rise. Projections B, C, and D eventually show slightly more men than women in the total population. This is due to the particular assumptions involved as to mortality, fertility and sex ratio at birth. With higher fertility there will be relatively more younger people, and with lower mortality there will be a greater probability of survival from birth so that the higher proportion of boy babies will have more effect.

In the population age 65 and over, there are now slightly less than 900 males per 1000 females. Under all four projections, this ratio decreases during the next few decades and then rises slightly (for the reasons noted in the previous discussion for the total population). A low of roughly 750 per 1000 is reached, with the ultimate ratio ranging between 800 and 850.

Table 10

SEX RATIOS[a] OF TOTAL POPULATION AND AGED POPULATION IN THE UNITED STATES, 1900-2050

Year	Projection A	Projection B	Projection C	Projection D
		Total Population		
1960	981	982	981	981
1975	972	979	976	976
2000	982	1000	991	992
2025	987	1014	1000	1004
2050	990	1017	1003	1007
		Population Aged 65 and Over		
1960	839	841	839	841
1975	767	780	767	780
2000	737	775	737	775
2025	798	857	801	855
2050	804	867	807	863

a/ Males per 1000 females.

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

Note: Actual data for past censuses for Continental United States:

Year	Total Population	Aged Population
1900	1044	1020
1910	1060	1011
1920	1040	1013
1930	1025	1005
1940	1007	955
1950	992	896

An important factor influencing all the preceding discussion on sex ratios of the population is the assumption inherent in the mortality assumptions, namely that the relative superiority of female over male mortality will decrease in the future (although absolute improvement is shown for both sexes). It is recognized that in the past the gap has been widening so that this assumption is contrary to a projection of past trends but is thought to be the most reasonable long-range assumption.

D. BIRTH AND DEATH RATES

As a subsidiary part of the population projections, it is possible to compute crude birth and death rates, averaged over 5-year periods, for each of the four illustrative projections. It is hardly necessary to emphasize that these crude rates are subject to many limitations, but they do possess considerable interest as a measure of current population change.

Table 11 gives a series of estimated annual births and deaths since 1915, after adjustment for incompleteness of the registration areas prior to 1933 and for under-registration. The annual number of births was relatively constant in 1915-27 at about 2.8-3.0 million; this, coupled with an increasing total population base, means a decreasing birth rate. After 1927 the annual births decreased steadily to a minimum of 2.3 million in 1933 and then increased slowly to 2.6 million in 1940 and more sharply to 3.1 million in 1943. It then declined slightly in 1944-45, then increased very sharply in 1946 to 3.4 million and again in 1947 to over 3.8 million. In 1948-50 there was a decrease to 3.6 million annual births, but in 1951 the 1947 peak was slightly exceeded (1952 apparently will be even higher than 1951).

The crude birth rate decreased steadily from almost 30 per 1000 in 1915, to about 18 per 1000 in 1933. In the next 6 or 7 years there was little change, but following 1940 there was some increase until a peak of 26½ per 1000 was reached in 1947. In the following years the rate has been fairly level at about 24½ per 1000.

The annual number of deaths has been remarkably constant over the period since 1915 with the exception of the influenza year of 1918 when there were about 400,000 to 500,000 excess deaths. During this period, exclusive of 1917, the annual deaths (excluding deaths among the armed forces overseas) ranged from a minimum of 1.29 million in 1921 to a maximum of 1.52 million in 1936, closely followed by slightly over 1.50 million in 1917 and 1951, and apparently in 1952. In the 38-year period, 1915-52, there were 32 years when the number of deaths were between 1.39 and 1.50 million (both inclusive). With the relatively constant annual deaths and with an increasing total population base, the crude death rate has declined slightly since 1915 to slightly less than 10 per 1000 since 1948.

Under all projections, the crude birth rate for 1950-54 is about 22 per 1000, or significantly lower than the roughly 24½ per 1000 actually experienced during the first 3 years of this period (see Table 12). After 1954, all projections show a significant decline. Following 1960 the resulting birth rates are more or less level at about 14 or 15 per 1000 for Projections A and D, and at about 18 or 19 per 1000 for Projections B and C.

Table 11

ACTUAL BIRTHS AND DEATHS IN THE UNITED STATES, 1915-52

Year	Births[a] (in thousands)	Deaths[a] (in thousands)	Rate per 1000 Population[b] Birth	Death
1915	2965	1389	29.5	13.8
1916	2964	1459	29.1	14.3
1917	2944	1501	28.5	14.5
1918	2948	1934	28.2	18.7
1919	2740	1394	26.1	13.3
1920	2950	1433	27.7	13.5
1921	3055	1294	28.1	11.9
1922	2882	1331	26.2	12.1
1923	2910	1403	26.0	12.5
1924	2979	1367	26.1	12.0
1925	2909	1406	25.1	12.1
1926	2839	1476	24.2	12.6
1927	2802	1397	23.5	11.7
1928	2674	1490	22.2	12.4
1929	2582	1494	21.2	12.3
1930	2618	1439	21.3	11.7
1931	2506	1416	20.2	11.4
1932	2440	1401	19.5	11.2
1933	2307	1384	18.4	11.0
1934	2396	1440	19.0	11.4
1935	2377	1436	18.7	11.3
1936	2355	1525	18.4	11.9
1937	2413	1495	18.7	11.6
1938	2496	1424	19.2	11.0
1939	2466	1431	18.8	10.9
1940	2558	1461	19.4	11.1
1941	2701	1439	20.3	10.8
1942	2988	1422	22.2	10.6
1943	3102	1496	22.7	11.2
1944	2938	1443	21.2	10.9
1945	2858	1431	20.4	10.8
1946	3411	1423	24.1	10.2
1947	3818	1470	26.5	10.3
1948	3638	1466	24.8	10.0
1949	3650	1463	24.5	9.8
1950	3628	1472	23.9	9.7
1951	3833	1501	24.8	9.8
1952[c]	3880	1510	24.7	9.7

a/ Corrected for underregistration. Exclusive of deaths among armed forces overseas. Data on births from publications of National Office of Vital Statistics. Data on deaths for 1915-40 from Actuarial Study No. 24, and sources mentioned therein, while after 1940 registered deaths are adjusted by decreasing factor (3% in 1940 down to 1% in 1951) to allow for underregistration.

b/ Birth rate based on midyear population including armed forces overseas. Death rate based on midyear population excluding armed forces overseas in 1917-19 and 1940-52.

c/ Estimate based on actual registered births and deaths in first 8 months of 1952.

Note: Data relate to continental United States only.

Table 12

BIRTHS AND DEATHS IN THE UNITED STATES, 1950-2050

Period	Average Annual Births (in thousands)	Average Annual Deaths (in thousands)	Rate per 1000 Mean Population	
			Birth	Death
		Projection A		
1950-54	3,566	1,536	22.3	9.6
1960-64	2,566	1,749	14.6	10.0
1970-74	3,093	1,985	16.7	10.7
1980-84	3,090	2,195	15.7	11.1
1990-94	2,946	2,380	14.4	11.6
2000-05	3,071	2,516	14.5	11.9
2025-29	3,096	3,044	13.9	13.7
2045-49	3,140	3,050	14.0	13.6
		Projection B		
1950-54	3,566	1,522	22.3	9.5
1960-64	3,130	1,701	17.6	9.5
1970-74	3,812	1,899	19.5	9.7
1980-84	4,051	2,078	18.7	9.6
1990-94	4,287	2,242	18.1	9.4
2000-05	4,764	2,401	18.3	9.2
2025-29	5,826	3,197	17.9	9.8
2045-49	6,860	3,772	17.8	9.8
		Projection C		
1950-54	3,566	1,536	22.3	9.6
1960-64	3,128	1,764	17.6	9.9
1970-74	3,804	2,005	19.6	10.3
1980-84	4,028	2,222	18.8	10.4
1990-94	4,243	2,418	18.2	10.4
2000-05	4,690	2,572	18.5	10.1
2025-29	5,662	3,328	18.2	10.7
2045-49	6,600	3,865	18.1	10.6
		Projection D		
1950-54	3,566	1,522	22.3	9.5
1960-64	2,567	1,688	14.6	9.6
1970-74	3,099	1,885	16.6	10.1
1980-84	3,106	2,062	15.5	10.3
1990-94	2,978	2,223	14.2	10.6
2000-05	3,119	2,372	14.3	10.9
2025-29	3,184	2,981	13.7	12.8
2045-49	3,261	3,043	13.7	12.8

Note: These data relate to the entire United States and not merely to the continental United States. See Table 1 and text for bases of the various projections.

The average annual births are about 3.6 million for 1950-54 (the actual average will quite likely be about 3.7 or 3.8 million). After 1954, for Projections A and D there is a decline to 2.6 million for 1960-64, but after 1970 the number is relatively constant at 3.1 million (which is certainly on the pessimistic side compared to the present level). Projections B and C show a decline in 1960-64 (to 3.1 million), but thereafter there is a steady increase (to about 4½ million in 2000 and almost 7 million in 2050).

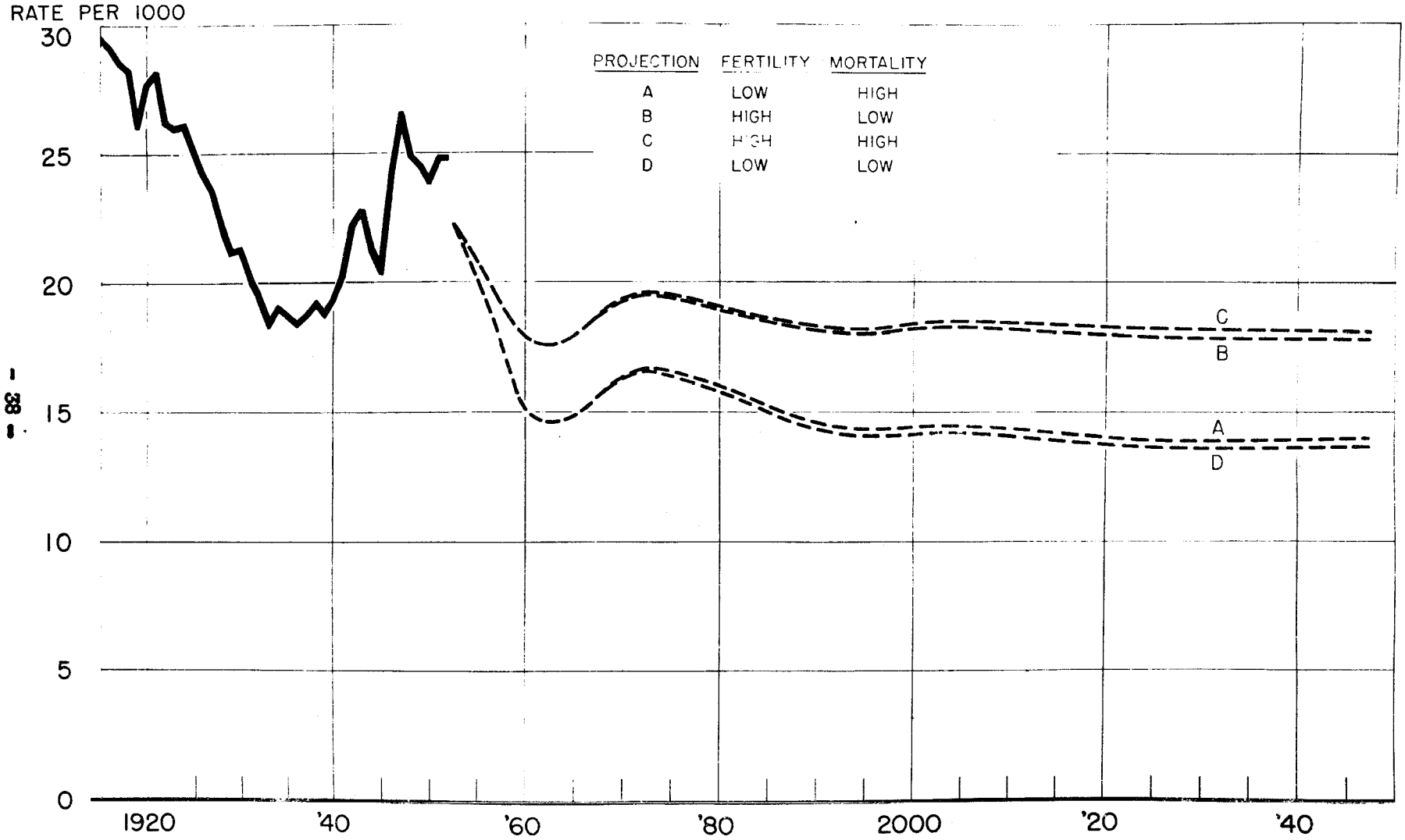
The crude death rates shown by the population projections indicate that there may be a small decrease from the present level over the next few years. In Projections A and D, there is eventually an increase to an ultimate level of perhaps 13 or 14 per 1000. On the other hand, under Projections B and C the crude death rate changes little from the present level over the course of the next 100 years.

The average annual deaths are about 1.5 million for 1950-54, but thereafter gradually and steadily increase. It thus appears that the level trend in the annual number of deaths over the past 40 years cannot be maintained much longer.

Charts 5 and 6 show the birth and death rates for the four projections and for past experience data back to 1915. As has been noted, the high birth rate for 1950-52 will very likely result in the actual rate for 1950-54 exceeding the birth rates shown for that period. The factor of future fertility is by far the most uncertain item in population projections. On the other hand, the actual crude death rate for 1950-54 will probably be quite close to (although possibly slightly above) the rates shown by the four projections.

CHART 5

U.S. CRUDE BIRTH RATE, 1915-2050†



†FOR 1915-52, ACTUAL DATA ADJUSTED FOR INCOMPLETENESS OF REGISTRATION AREA AND UNDER-REGISTRATION OF BIRTHS. AFTER 1949, ESTIMATED DATA FOR 5-YEAR PERIODS PLOTTED IN MIDDLE OF PERIOD.

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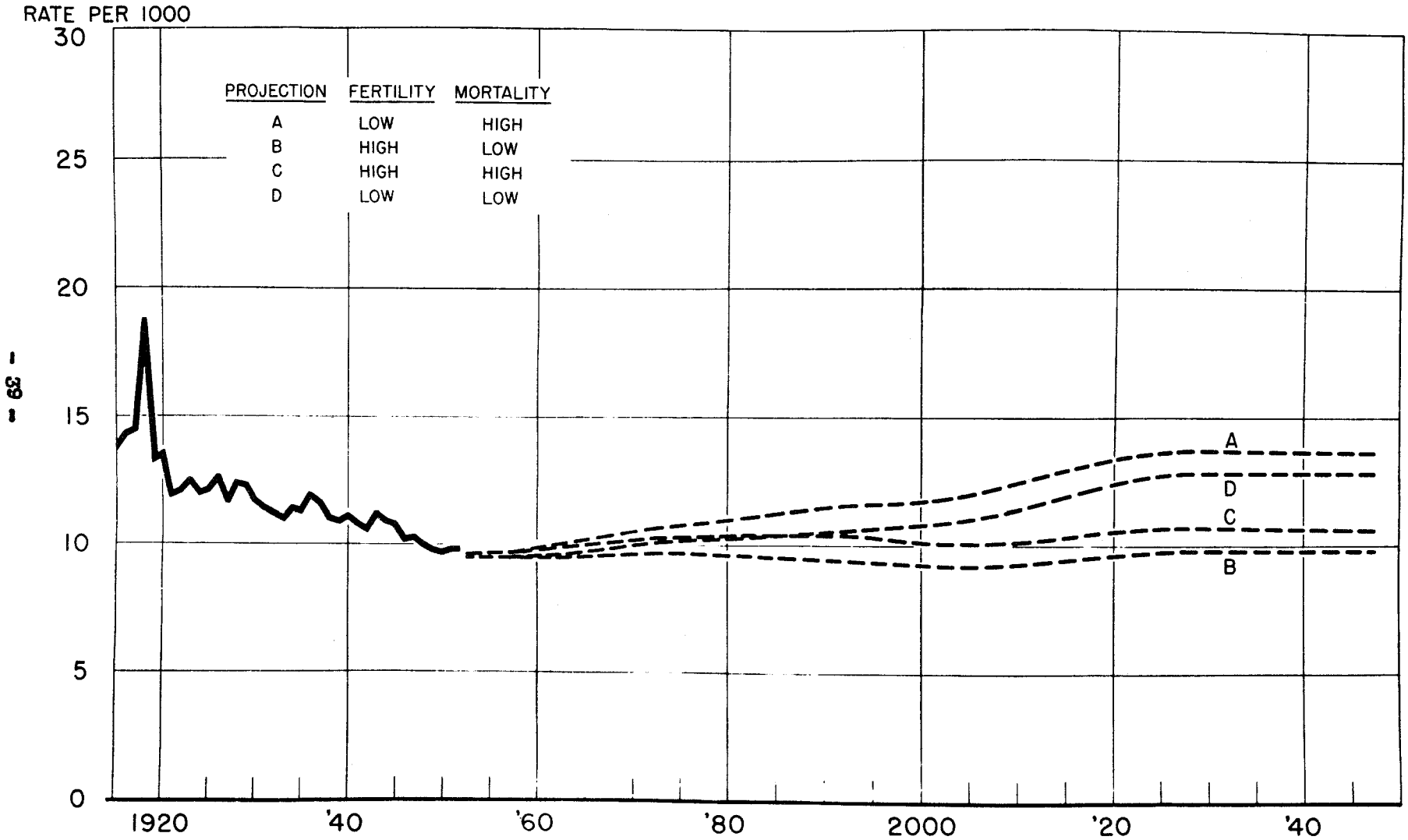
CHART 6

U.S. CRUDE DEATH RATE, 1915-2050†



†FOR 1915-52, ACTUAL DATA (INCLUDING WAR DEATHS) ADJUSTED FOR INCOMPLETENESS OF REGISTRATION AREA AND UNDER-REGISTRATION OF DEATHS. AFTER 1949, ESTIMATED DATA FOR 5-YEAR PERIODS PLOTTED IN MIDDLE OF PERIOD

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E. REPRODUCTION RATES

Table 13 shows the net and gross reproduction rates and the true rate of natural increase of the population for various years in the past and future. These rates for any year are the ultimate rates if the mortality and fertility rates, along with the sex ratios, remain constant in the future.

The gross reproduction rate as used here is the ratio that a generation of women would bear to the preceding generation ultimately based on given set of age-specific fertility rates, assuming no deaths prior to say age 50.

The net reproduction rate is the corresponding rate if mortality is considered. The difference between these rates is thus an indication of the effect of improvement in mortality in the future. Likewise, the tremendous decrease in the past in this difference is an indication of the corresponding improvement in mortality.

The true rate of natural increase as used here is merely the annual net rate of reproduction corresponding to the above generation net rate of reproduction.

Table 13

REPRODUCTION RATES FOR THE UNITED STATES

Calendar Year	Approximate Mean Length of Generation	Reproduction Rate (per generation) Gross	Net	True Annual Rate of Natural Increase
Based on Fertility and Mortality Rates for Given Year				
1920	37.0	1.567	1.305	.0095
1925	34.2	1.404	1.209	.0068
1930	30.6	1.242	1.099	.0034
1940	27.7	1.113	1.020	.0007
1950	38.8	1.528	1.457	.0143
Based on Ultimate Fertility and Mortality Rates				
Projection A	27.8	1.046	1.022	.0008
Projection B	33.9	1.270	1.260	.0087
Projection C	33.3	1.270	1.242	.0081
Projection D	28.2	1.046	1.037	.0013

F. COMPARISON WITH PREVIOUS PROJECTIONS

Whenever population projections are prepared, there is a certain responsibility to compare the figures with future experience as it develops. Often this is a rather embarrassing task when actual experience refuses to follow the projections. No matter how skillfully and accurately projections are made, it is quite likely that there will be differences. Even when a range of estimates is developed, actual experience might well fall outside. Through consideration of these deviations, the projector will have some better idea as to how to proceed on new projections in the future.

In the past two decades the demographic variations have been relatively tremendous. In the 1930's it was fully anticipated by most persons that birth rates would have a continuous long-term decline. In the early 1940's the uptrend in the birth rate was thought to be only temporary during the beginning of the war, and the high level during the entire war was not generally anticipated. After the war it was thought that there might be a short-term rise, but that there would then be a decline (which has not yet materialized, as indicated previously).

Our consideration of the fluctuations in actual experience lead us to believe even more strongly that no precise predictions for the future can be made. Accordingly, we have not believed that elaborate methods of forecasting future fertility and mortality are justified, at least for illustrative projections such as these.

Table 14 summarizes for the total population various projections that have been made in the past. Considering actual data for 1950, all the earlier projections were considerably low, with the difference being greatest for the early estimates. In fact it is interesting to note that under some of the early projections the population within the next half century was not estimated to be as high as it is at the present time. In contrast with the previous projections made by this office, the current ones show less of a range in the future. This is not because we believe that we can estimate more closely now, but rather because there is less spread in the fertility assumptions and also in the mortality assumptions for the aged.

Table 15 makes a similar comparison for the population aged 65 and over. Again, the actual 1950 figure is well above the various projections despite the fact that for this group only a mortality projection was involved. Apparently most of this excess is due to changes in reporting of age by the individuals involved, although there has been some improvement in mortality which would partially explain the situation. Whether ages are now stated correctly in the 1950 census or whether they were previously stated correctly is impossible to answer; in fact, the true answer might well be that previously there was understatement of age and now there is overstatement. As time goes by, and as more and more people have birth certificates, this situation should be somewhat clarified.

Table 14

SUMMARY OF VARIOUS POPULATION PROJECTIONS[a], TOTAL POPULATION
(In millions of persons)

Projection	1950	1960	1975	2000
This Study[b]	155[c]	173-174	189-201	210-254
Actuarial Study No. 24, 1946	145-149	148-164	147-191	124-241
Census Bureau, 1952[d]	152[c]	167-181	n.a.	n.a.
Census Bureau, 1950	152[c]	162-180	n.a.	n.a.
Census Bureau, 1947	145-148	150-162	151-185	163
National Resources Planning Board, 1943	143-145	148-157	148-174	129-199
National Resources Committee, 1937	137-147	138-160	132-180	n.a.
Committee on Economic Security, 1934	141	146	150	151

a/ Where several projections are made, the figures shown are those resulting in the widest range.
b/ Based on total United States rather than Continental United States as for all other projections shown.
c/ Actual census figure.
d/ From "Population Projections for Sales Forecasting," Margaret Varman Hagood and Jacob S. Siegel, Journal of the American Statistical Association, September 1952 (p. 529). Not available by age groups.

Note: All projections include an adjustment for underenumeration of children.

Table 15

SUMMARY OF VARIOUS POPULATION PROJECTIONS[a], POPULATION AGED 65 AND OVER
(In thousands of persons)

Projection	1950	1960	1975	2000
This Study[b]	12.4[c]	15.4-15.5	20.1-20.6	25.8-28.0
Actuarial Study No. 24, 1946	11.2-11.4	14.0-14.9	16.9-20.5	19.0-29.3
Census Bureau, 1950	11.6	15.1-16.1	n.a.	n.a.
Census Bureau, 1947	11.2-11.3	13.9-14.7	17.1-19.9	21.5
National Resources Planning Board, 1943	10.9-11.1	13.5-14.4	16.5-19.4	19.6-25.4
National Resources Committee, 1937	11.0-11.4	14.1-15.7	17.5-22.8	n.a.
Committee on Economic Security, 1934	10.9	13.6	16.0	19.3

a/ Where several projections are made, the figures shown are those resulting in the widest range.
b/ Based on total United States rather than Continental United States as for all other projections shown.
c/ Actual census figures.

G. DATA FOR VARIOUS COUNTRIES

It is of interest to compare some of the summary ratios for the United States both as to present experience and as to the future as shown by the population projections with the current experience of foreign countries. This gives some indication of how this country stands relative to other countries which, in some instances, have an almost "mature" age distribution. In considering crude birth and death rates it is hardly necessary to emphasize that they are subject to many limitations although possessing considerable interest as a measure of current population change.

Table 16 compares the aged population with the total population and with the productive population, defined as being ages 20-64. Of course, in some countries, these might not be the proper actual boundaries. The current ratios for the United States tend to be somewhat lower than for most of the European countries although quite naturally higher than for such economically underdeveloped countries as those in South America and Asia. The ultimate United States ratio given as a range is naturally higher than all foreign countries at the present time although the lower portion of the range is very little above some of the European countries such as France, Belgium, and England.

Table 17 makes a similar comparison for crude birth and death rates. Here the current United States birth rate is exceeded generally by only the underdeveloped countries such as in South America and Asia although Canada and New Zealand are also slightly higher, with the European countries generally being significantly lower. In large part, these variations may be due to differences in age distribution rather than actual fertility. The ultimate United States birth rate based on the older population distribution which will occur tends to be about the same as currently in many of the European countries.

The current crude death rate in the United States tends to be about the same as in most countries shown. In fact, there is remarkable uniformity, with the death rate being between 9 and 11 per thousand in virtually all countries listed. Of course, for many of the African, Asiatic, and South American countries for which data are not listed or else not available, the death rate is undoubtedly much higher. The only country with a death rate significantly below 9 per thousand is the Netherlands; apparently this is due not only to low age-specific mortality but also to a relatively young age distribution (as indicated in Table 16).

Table 16

COMPARISON OF POPULATION AGE 65 AND OVER TO TOTAL AND PRODUCTIVE POPULATIONS FOR VARIOUS COUNTRIES[a]

Country and Year[a]	Aged as Percent of Total Population	Aged as Percent of Population Age 20-64
United States, 1950	8.0%	14.0%
United States, Ultimate[b]	12-16	21-28
France, 1950	11.8	20.0
Belgium, 1950	11.0	18.2
United Kingdom, 1950	10.8	17.9
Sweden, 1948	10.0	16.3
Norway, 1949	9.5	15.7
Switzerland, 1949	9.4	15.5
New Zealand, 1949	8.9	16.0
Denmark, 1949	8.9	15.3
Germany (West), 1950	8.5	14.3
Italy, 1949	7.9	14.0
Netherlands, 1950	7.7	14.1
Canada, 1950	7.7	14.0
Finland, 1949	7.1	12.5
Portugal, 1949	6.6	12.2
Japan, 1950	4.9	10.0
Argentina, 1947	4.3	7.8

a/ Source: "United Nations Demographic Yearbook, 1951." Based on official estimates or censuses. Listed in decreasing order of percent of total population age 65 and over.

b/ Based on range for Projections A, B, C, and D for year 2050.

Table 17

COMPARISON OF CRUDE BIRTH AND DEATH RATES FOR VARIOUS COUNTRIES[a]

Country and Year[a]	Birth Rate per 1000 Population	Death Rate per 1000 Population
United States, 1950	23.9	9.7
United States, Ultimate[b]	14-18	10-14
Chile, 1950	32.4	15.7
Japan, 1950	28.4	11.0
India, 1949	26.7	16.0
Canada, 1950	26.6	9.0
New Zealand, 1950	25.8	9.4
Argentina, 1949	24.9	9.1
Portugal, 1950	24.2	12.1
Finland, 1950	24.0	10.2
Australia, 1950	23.3	9.6
Netherlands, 1950	22.7	7.5
France, 1950	20.4	12.6
Spain, 1950	19.9	10.8
Italy, 1950	19.6	9.8
Norway, 1950	19.3	8.9
Denmark, 1950	18.6	9.2
Switzerland, 1950	18.1	10.1
Belgium, 1950	16.5	12.4
Sweden, 1950	16.4	10.0
Germany (West), 1950	16.2	10.4
United Kingdom, 1950	16.1	11.7

a/ Source: "United National Demographic Yearbook, 1951." Based on official estimates or censuses. Listed in decreasing order of birth rate.

b/ Based on range for Projections A, B, C, and D for year 2050.