Reproduced from the Scientific Monthly
Vol. LXVII, No. 4, October, 1948

A HISTORY OF POPULATION GROWTH IN THE UNITED STATES

P. K. Whelpton

Associate Director of the Scripps Foundation for Research in Population Problems at Miami University since 1940, Professor Whelpton has taught agriculture in New York high schools, done extension work with the U. S. Department of Agriculture, and taught farm management at Agricultural and Mechanical College of Texas.

The increase of the population of the United States has been one of the world's outstanding demographic events. When the first census was taken in 1790 the nation had slightly less than 4,000,000 inhabitants; on July 1, 1948, it had more than 146,000,000 (Table 1). This represents the addition of more than 141,000,000 persons in a century and a half, or growth to more than thirty-five times the size at the beginning of the period. Few nations of the world have surpassed or even equalled this performance.

Table 1. Total Population and Intercensal Increase, 1790-1950

Year	Population (Thousands)	Intercensal Increase	
		Number (Million)	Percent
1790	3,929		
1800	5,308	1.4	35.
1810	7,240	1.9	36.
1820	9,638	2.4	33.
1830	12,866	3.2	33.
1840	17,069	4.2	33.
1850	23,192	6.1	36.
1860	31,443	8.3	36.
1870	39,818	8.4	27.
1880	50,156	10.3	26.
1890	62,948	12.8	26.
1900	75,995	13.0	21.
1910	91,972	16.0	21.
1920	105,711	13.7	15.
1930	122,775	17.1	16.
1940	131,669	8.9	7.
1950	147,986	16.3	12.

For at least 70 years (1790-1860) the population increased at a rate of 32-37 percent a decade. During this period several prominent people, among them Abraham Lincoln, made estimates of the additional growth that was to be expected. Like most of the others, Lincoln assumed the continuation of a relatively high rate of increase and forecast a population of over 250,000,000 in 1930. The 1948 forecast according to his assumptions would be 430,000,000--three times the actual population.

Fortunately for our standard of living, the rate of increase declined after 1860. From 1860 to 1890 it was close to 26 percent per decade; during 1890-1900 and 1900-10, about 21 percent; and during 1910-20 and 1920-30, about 15 or 16 percent (Table 1). The great depression of the 1930s reduced growth to less than 8 percent from 1930 to 1940, whereas prosperity raised it to nearly 11 percent from 1940 to 1948 (which probably means over 13 percent for the current decade). During the 1950s and 1960s the downward trend in the rate of increase probably will be resumed.

Although the intercensal rate of growth fell after 1860, the number of persons added to the population during the 10 years between censuses increased to the 1920-30 period, when it was more than 17,000,000. The gain from 1930 to 1940 was less than 9,000,000, but that since 1940 exceeded 14,000,000 by July 1, 1948, and probably will exceed 17,000,000 when the 1950 census is taken. Smaller gains are to be expected during the 1950s and 1960s. By 1975 the population is likely to be between 165,000,000 and 170,000,000.

Growth from immigration and natural increase. How much of the large growth in population has come from immigration and how much from natural increase (the excess of births over deaths) is a question about which much has been written. The best information comes from a study by Joseph A. Hill, formerly Assistant Director of the Bureau of the Census. His results indicate that the white population of colonial stock increased from approximately 2,300,000 in 1780 to 41,300,000 in 1920---a gain of 39,000,000---and that the immigrants who came after 1780, together with their descendants, amounted to about 53,500,000 in 1920. In other words, approximately 42 percent of the gain of 92,500,000 in the white population between 1780 and 1920 came from the natural increase of the colonial stock, and 58 percent from the immigration which took place during the 140 year period and the excess of births over deaths in this group. It is probable that these proportions have not changed much since 1920.

Official records concerning the amount of immigration date back to 1820 and show that until 1914 the general trend was upward, with large increases occurring during periods of prosperity and smaller decreases during periods of depression. The maximum inward movement took place in the fiscal year 1906-07 when more than 1,335,000 immigrants were admitted, but 1913-14 with over 1,210,000 was a close second. The movement back to the "old country" was relatively large in the latter period, for many foreigners came to work a few years rather than to settle permanently. In consequence, the number arriving exceeded the number departing by about 770,000 during 1913-14, and probably by somewhat more in 1906-07.

Immigration was reduced sharply by World War I, but probably would have rebounded to new heights during the postwar years had it not been checked by the quota system imposed by Congressional action. As it was, arrivals exceeded departures by about 3,200,000 in the 10-year period 1920-30. Administrative regulations brought further reductions and, together with the depression, led to a net outward movement during 1931-32.

Since than the net inward movement has been increasing, and in 1947 immigrants exceeded emigrants by about 215,000. Between 1940 and 1950 the difference probably will be in the neighborhood of 1,500,000.

The net immigration during a decade was largest in comparison to the current population during 1850-60, when the excess of arrivals over departures amounted to about 12 percent of the 1850 population. A secondary high in this ratio (over 10 percent) was reached during 1880-90, but since then the trend has been sharply downward. During the present decade current immigration probably will increase the population by 1-2 percent, as it did in each decade from 1800 to 1830.

Although the excess of immigrants over emigrants has been very large in certain years, the excess of births over deaths probably has been still larger in every year, and certainly has been much larger in most years. Even in 1913, when net immigration amounted to nearly 900,000, births outnumbered deaths by about 1,200,000. Estimates prepared by Whelpton for the 10-year periods from 1800 to 1950 indicate that in most of them more than 70 percent of the current growth of the white population came from natural increase, and that in only two decades (1880-90 and 1900-10) did immigration contribute as much as 40 percent (Table 2). Such comparisons do not tell the whole story about the contribution of immigration to population growth, however, for a high proportion of the babies born during 1910-20 (for example) had immigrant parents.

Table 2. Intercensal Increase of the White Population from Births Minus Deaths, and from Current Immigration, 1800-1950.

Period	Intercensal Increase	
	Births minus Deaths	Current Immigration
1800-10	96	4
1810-20	96	4
1820-30	95	5
1830-40	86	14
1840-50	74	26
1850-60	65	35
1860-70	72	28
1870-80	72	28
1880-90	57	43
1890-1900	68	32
1900-10	58	42
1910-20	83	17
1920-30	78	22
1930-40	100	0
1940-50	90	10

The rate of natural increase (the birth rate minus the death rate) was largest during 1800-10, when it averaged approximately 35 per 1,000.

In all except two of the following decades it has become successively smaller, decreasing to about 25 per 1,000 during 1850-60, to 13 per 1,000 during 1900-10, and reaching a low of 7 per 1,000 during 1930-40. The present decade probably will see a recovery to about 12 per 1,000. It is this decline in the rate of natural increase that is primarily responsible for the diminishing rate of population growth since 1860.

THE LONG-TIME DOWNWARD TREND OF FERTILITY

The decline in the rate of natural increase since the early 1800s reflects a more rapid fall in the birth rate than the death rate. The Birth Registration Area did not include all states until 1933, but it is possible to judge what was happening to the birth rate in earlier years by observing the ratio between the number of children and the number of women enumerated in the census. In 1800 there were approximately 1,340 children under five years of age per 1,000 white women aged twenty to forty-four, and in 1810 approximately 1,360. Since 1810 every census except one (that of 1860) has shown a smaller ratio than its predecessor. In 1860 there were 905 children per 1,000 women, a decline of about one third since 1810 (but slightly more than in 1850). In 1900 the ratio was 666, a decline of about one fourth since 1860. The last census (1940) showed a ratio of only 419, down more than one third since 1900 (Table 3). The next census (1950) will show a ratio substantially higher than that of 1940, and perhaps slightly above the 1930 ratio of 506. Even so, it will be only a little more than one third as large as the 1810 ratio. When an allowance is made for the great reduction which has been achieved in the death rates of small children (which should raise the ratio of children to women), it is evident that the birth rate of white women has dropped at least 65-70 percent since 1810.

Table 3. Children under 5 per 1,000 White and Negro, Women aged 20-44, in the United States and Selected Regions, Census Years, 1800-1940.

Year	White					Negro
	United States	New England	East North Center	East South Center	Pacific	United States
1800	1,342	1,164	1,918	1,875		
1810	1,358	1,111	1,777	1,794		
1820	1,295	980	1,683	1,708		
1830	1,145	826	1,473	1,530		
1840	1,085	770	1,280	1,424		
1850	892	636	1,037	1,115	896	1,087
1860	905	639	1,016	1,056	1,035	1,072
1870	814	564	892	922	916	997
1880	780	520	781	952	808	1,090
1890	685	456	668	873	600	930
1900	666	497	620	855	532	845
1910	631	505	576	836	478	736
1920	604	543	570	760	447	608
1930	506	467	482	680	357	554
1940	419	365	407	556	358	513

Similar information about the Negro population is available from the censuses for 1850 and later years. In 1850 there were approximately 1,090 children under five per 1,000 Negro women aged twenty to forty-four. The 1880 ratio was the same, but since then there has been a decline to about 513 in 1940. The ratio will be higher in 1950 than in 1940, but probably less than 554, the 1930 figure.

Although fertility has declined throughout the United States, the reduction has progressed further in some places than in others. In general the decrease has been largest in the most urban areas and smallest in the most rural areas. Even as early as 1800 the ratio of children to white women had fallen to a much lower figure in New England (about 1,160) than in the East North Center--the area now occupied by Ohio, Indiana, Illinois, Michigan, and Wisconsin (over 1,900). Differences in 1940 may be illustrated by comparing the ratio for white women in New York City (which had fallen to 269) with that for the rural-farm population of North Dakota (which had declined only to 748). The former is barely one third of the latter. This is not an extreme difference, for several cities have a lower ratio than New York, and many rural counties have a higher ratio than the farm population of North Dakota.

Causes of lower fertility. Much has been written during past decades concerning the causes of the decline of the birth rate. Usually the blame has been placed on one or more of the following: a less favorable marriage rate, a rise in the proportion of pregnancies ending with a miscarriage or stillbirth, the more frequent resort to illegal abortion, an increase in low fecundity or sterility, and the more widespread and effective practice of contraception. The first two suggestions are of little or no importance, for the evidence now available indicates that during the past 60 years the marriage rate has become more favorable, and the proportion of pregnancies ending with a miscarriage or stillbirth has decreased. An increase in the practice of illegal abortion probably has been of only minor importance, for the studies that have been made indicate that not more than 5 percent of the pregnancies of urban white women, and a smaller proportion of those of rural white women, have been terminated illegally in recent years. Even if there were no illegal abortions in 1810 and the best current estimates are only half as large as they should be, less than one tenth of the decline in fertility would be accounted for.

The role of low fecundity or sterility is more obscure. There is little reliable information as to how much the birth rate is currently reduced by defects in the reproductive system, but a study of nearly 2,000 native white Protestant couples in Indianapolis indicates that it may approximate 25 percent. Still less is known about the situation in earlier decades. Some gynecologists believe that there has been a notable decrease in the physiological capacity of couples to produce children, and others that the change has been small. But even if no couples were sterile or low in fecundity in 1810 and if these conditions have reduced the birth rate by 25 percent during recent years (which appears to be an extreme combination of assumptions), only about 15 percent of the decline in fertility between 1810 and 1940 would be explained.

Much evidence is available to show that attempts to restrict family size by the practice of contraception have been widespread and effective during recent years, and have lowered the birth rate of large groups of the population by as much as 65-75 percent. That similar attempts were made early in the nineteenth century is certain. That they reduced the birth rate much less at that time than in recent years is proved by the relatively small difference that formerly existed between the actual birth rate and the maximum that is biologically possible. It appears certain, therefore, that the birth rate has dropped 65-70 percent since 1810 primarily because couples have wanted smaller families and have made great progress in learning how to restrict the number of children by practicing contraception.

The recent rise in the birth rate. Although the birth rate declined most of the time from 1810 to 1933 and probably was less than one third as large in the latter year as in the former, it has risen substantially since 1933. In that year there were 18.4 births per 1,000 persons in the population; in 1947 there were 27.2. The increase is more striking when numbers are considered, for the 3,910,000 births of 1947 exceed by nearly 1,600,000 the number in 1933. Does this recent rise mean that the long-time downward trend of fertility has been reversed, or is it a temporary phenomenon resulting from World War II and associated conditions? To answer this question it is helpful to consider separately the rates for first births, second births, third births, and births of other orders per 1,000 women aged fifteen to forty-nine, and to deal only with native white women (who bore over 85 percent of all the children in 1947), because birth certificates are filled out more accurately for these women than for colored women.

From 1920 to 1933 the rate for first births, second births, and births of other orders declined in a rather similar fashion, the reductions varying only 26-40 percent. From 1933 to 1947, however, the trends of these rates have differed widely. At one extreme is the rate for first births, which rose in most years from 1933 to 1942 and reached a record-breaking high of over 40.0 in 1947. This is almost double the low of 22.2 in 1933, and well above the high mark of 32.6 reached after World War I. At the other extreme is the rate for eighth and higher order births, which declined in most years from 1933 to 1942, and in 1947 was about 25 percent smaller than in 1933 and 60 percent below the maximum following World War I (Table 4). Rates for intermediate birth orders have followed intermediate trends. Thus, the decline lasted until 1935 for second births, until 1937 for third births, until 1939 for fourth births, and until 1942 for sixth and seventh births. Similarly, the reaction from the lowest rate has been small for sixth and seventh births, and increasingly larger for fifth, fourth, third, and second births.

An analysis of these changes and of changes in other conditions during the period in question suggests certain conclusions. One is that the rates for first and second births have varied from year to year primarily in accordance with prosperity and depression (modified by peace and war), but have shown no definite upward or downward trend. In other words, during the 1920-47 period as a whole, there seems to have been little change in the proportion of couples having no child or one child.

Table 4. First Births, Second Births, etc. per 1,000 Native White Women 15 to 49 Years of Age, 1920-1945.

Year	First	Second	Third	Fourth	Fifth	Sixth and Seventh	Eighth and Higher
1920	31.8	21.2	14.5	9.9	6.8	8.3	6.5
1921	32.6	21.0	14.7	10.2	6.9	8.6	6.8
1922	28.6	21.4	13.6	9.4	6.5	7.9	6.4
1923	27.8	21.6	13.8	9.4	6.5	8.0	6.4
1924	28.9	20.9	14.1	9.3	6.4	7.8	6.4
1925	28.0	20.2	13.6	9.0	6.2	7.5	6.1
1926	27.0	19.8	13.0	8.8	5.9	7.2	5.8
1927	27.0	19.2	12.6	8.5	5.8	7.0	5.7
1928	25.9	18.3	11.9	7.9	5.4	6.4	5.3
1929	25.0	17.6	11.2	7.4	5.0	6.0	4.9
1930	25.9	17.7	11.2	7.3	5.0	5.9	4.7
1931	24.6	17.0	10.6	6.9	4.6	5.6	4.5
1932	23.5	16.5	10.3	6.7	4.5	5.4	4.3
1933	22.2	15.6	9.7	6.3	4.2	5.0	4.0
1934	23.9	15.9	9.8	6.3	4.2	4.9	4.0
1935	25.1	15.6	9.3	6.0	3.9	4.6	3.8
1936	25.3	15.9	9.0	5.6	3.7	4.3	3.5
1937	26.4	16.3	9.0	5.5	3.5	4.1	3.4
1938	27.6	17.3	9.2	5.4	3.5	4.0	3.2
1939	26.8	17.3	9.1	5.2	3.2	3.7	2.9
1940	27.4	18.4	9.6	5.3	3.2	3.6	2.9
1941	30.4	19.2	9.8	5.4	3.2	3.4	2.7
1942	35.8	21.4	10.5	5.5	3.2	3.3	2.5
1943	32.8	23.8	12.1	6.3	3.6	3.6	2.7
1944	28.4	22.3	12.4	6.4	3.6	3.6	2.6
1945	26.9	21.4	12.0	6.3	3.5	3.5	2.5

A second conclusion is that since 1920 the proportion of couples having eight or more children has been declining rapidly and almost regardless of changes in economic, military, or other conditions. Conclusions regarding families of two to seven children are between these extremes.

These specific conclusions have certain corollaries. First, the rise in the birth rate from 1933 to 1943 and from 1944-5 to 1946-7 represents primarily the occurrence of births that were postponed by the depression and by World War II, respectively. Second, when these postponed births have been made up there will be a sharp drop in the birth rate and then a resumption of the long-time downward trend. The decline will be more gradual than formerly, however, because the rates for fifth and higher order births already are so low. Third, the permanent stoppage or reversal of the long-time decline will require that many couples of the

type that formerly would have had no child or only one or two children decide to have an additional one or two. Only such a development can offset the further declines which are expected in the rates for fifth and higher order births.

THE DECLINE OF MORTALITY

Although mortality rates have not dropped as much as fertility rates since 1810, striking reductions have been achieved. What happened during the first half of the nineteenth century must be judged by a few studies, for deaths were not registered in most states, the records kept by the remaining states were incomplete, and the census does not provide a measure of mortality as it does of fertility. In 1793 Edward Wigglesworth estimated that in Massachusetts four years earlier there were 27.8 deaths per 1,000 persons. In 1857 E. B. Elliott estimated the 1855 death rate as 21.4. If these estimates are correct, the Massachusetts rate was cut nearly one fourth in 66 years. Little progress was made between 1855 and 1895, the rate being between 18.0 and 22.0 in most of these years, but between 1895 and 1921 the likelihood of dying within a year was cut by more than one third. During subsequent years the Massachusetts rate has remained fairly constant between 11.1 and 13.2. Since 1933 (when the death registration area became nation-wide) the United States rate has been slightly below the rate for Massachusetts, but has been even more stable (between 10.4 and 11.6).

Death rates by age. A better appreciation of the progress made in postponing death may be obtained by considering what has happened at various ages in Massachusetts, one of the states with the best early records. In general, the proportional change in the death rate has varied from a large drop for young children to little if any decline for elderly people. During most years from 1855 to 1900, there were 190-225 deaths per 1,000 babies less than one year old. By 1920 this infant death rate had been reduced to 112; by 1946 it had been cut to 33--less than one sixth of the rate before 1900 (Table 5). The biggest single factor has been the control of diarrhea and enteritis, which formerly killed more than 40 babies of each 1,000 born, but which now kill fewer than 3.

Striking progress toward saving life has also been made among children aged one to four. In Massachusetts their death rate was cut from 40 per 1,000 in 1855 to 2 in 1945, a reduction of over 95 percent! After childhood, however, efforts to prevent death have been less successful age by age. At ages ten to fourteen the rate was cut by about 85 percent during the 90-year period (from over 5 to less than 1); at ages twenty to twenty-nine the relative drop was equally large (from more than 12 to less than 2); at ages forty to forty-nine the reduction was about 60 percent (from 14 to less than 6), but at most older ages the downward trend has been slight, or absent (Table 5). Thus at ages sixty to sixty-nine and seventy to seventy-nine the probability of dying during the year was about as great in Massachusetts in 1935 as in 1855.

Mortality rates for the nation as a whole in recent years have been similar to those for Massachusetts at ages over fifty, though slightly higher at younger ages. The latter rates have been reduced substantially since 1935, however, and there are some indications of real progress in

Table 5. Deaths per 1,000 Persons of Specified Ages, Selected Years, Massachusetts, 1855-1935, and United States, 1935-1945.

Year	Under 1	1-4	10-15	20-30	40-50	60-70	70-80	80 and over
Massachusetts								
1855	226.	40.	4.3	11.3	14.1	37.	80.	199.
1865	205.	39.	5.1	12.6	11.7	33.	70.	168.
1870	188.	30.	3.7	10.5	12.0	30.	69.	170.
1875	227.	37.	4.7	10.5	13.0	35.	71.	176.
1880	191.	35.	3.8	9.5	11.7	34.	73.	184.
1885	212.	30.	3.8	9.1	13.0	36.	76.	182.
1890	224.	26.	3.6	8.4	13.4	38.	76.	174.
1895	216.	25.	3.2	7.1	12.6	39.	82.	185.
1900	190.	22.	2.9	7.0	12.0	41.	86.	198.
1905	208.	15.	2.8	6.3	11.2	41.	83.	180.
1910	163.	15.	2.4	5.2	11.0	43.	79.	191.
1915	126.	12.	2.1	4.6	10.3	40.	87.	178.
1920	112.	11.	2.1	4.9	9.1	38.	86.	193.
1925	90.	8.	1.9	3.7	8.5	38.	82.	186.
1930	68.	5.	1.2	2.9	7.6	36.	78.	179.
1935	51.	3.	1.2	2.3	7.7	36.	75.	167.
United States								
1935	61.	4.	1.5	3.5	8.5	33.	74.	165.
1940	55.	3.	1.0	2.6	7.4	32.	74.	174.
1945	43.	2.	.9	1.9	6.5	30.	66.	162.

postponing deaths among older persons. If conditions should continue as they were in 1945 the average white baby would live to age sixty-five—about twice as long as was the case 150 years ago.

Causes of death. The large reductions in death rates from infancy to middle life are the result of scientific progress, general economic betterment, and expanded public-health programs. Certain contagious or infectious diseases which were important causes of death only 50 years ago have been almost eliminated, and the mortality from others has been greatly reduced. Typhoid fever and diphtheria each killed more than 28 persons annually out of every 100,000 of the population in 1900-02, and measles, scarlet fever, and whooping cough more than 10 each, but in 1945 these five diseases combined took a toll of less than 4 (Table 6). The bronchitis death rate has been reduced by a larger absolute amount in the same period (from 40 to 3), and the pneumonia and influenza rate still more (from 190 to 52). The largest reduction of all is in tuberculosis mortality, the rate for this disease having been cut from 186 to 40. A very large reduction has also been achieved in the rate for diarrhea and enteritis, from 122 to 9 deaths per 100,000 persons per year.

Table 6. Deaths from Important Causes per 100,000 Persons in the Death Registration States, Selected Years, 1900-02 to 1945.

Causes	All Classes			White		All Classes
	1900-1902	1909-1911	1919-1921	1929-1931	1939-1941	1945
Typhoid fever, scarlet fever, diphtheria, measles, and whooping cough	96	73	43	18	5.4	3.3
Pneumonia and influenza	187	150	168	110	64.0	52.0
Tuberculosis	186	155	98	58	36.0	40.0
Cancer	66	75	86	102	124.0	134.0
Apoplexy, etc.	106	94	91	87	87.0	98.0
Diseases of the heart	141	156	154	212	291.0	322.0
Diarrhea, etc.	122	101	52	21	9.4	8.7
Nephritis	90	94	85	85	75.0	67.0
Accidents	76	83	70	79	73.0	73.0

In contrast to the foregoing is the relatively little progress made in preventing deaths from certain other causes. The rate for intracranial lesions of vascular origin (popularly called apoplexy) declined only from 106 per 100,000 persons in 1900-02 to 98 in 1945, and that for nephritis from 90 to 67 (Table 6). More discouraging is the fact that recent death rates for cancer and diseases of the heart (134 and 322 per 100,000, respectively) are more than twice as large as formerly; each of these is now responsible for many more deaths than any other cause. Part of the greater incidence of cancer and the so-called degenerative diseases is apparent rather than real, however, because diagnosis has become more accurate and because there has been an increase in the proportion of the population in the older age groups where these causes of death are most prevalent. But aside from such factors the increase in the rates for these causes has been sufficiently large to justify the greater attention now given to them in the national health program.

Future trends. Whether the over-all death rate will decline substantially during the next 50 years will depend in part on the continuation of the progress made in controlling such diseases as tuberculosis, influenza, and pneumonia. Here the outlook is favorable, for the more widespread utilization of present knowledge regarding the causes and control of these diseases would lower the number of deaths to a point substantially below the present levels. There is also a reasonable expectation that more effective measures for the control of these diseases will be developed, and that they will be applied to larger sections of the population as public-health programs are intensified and extended.

Although the degenerative diseases have not as yet been brought under control, there is hope for the future. Because certain damaging infectious diseases (e.g., scarlet fever, diphtheria, and typhoid fever) have almost been eliminated, a substantial reduction should occur in the organic

impairments and aftereffects caused so commonly by such diseases. As these sequelae are reduced in frequency there should be a reduction in the number of organic breakdowns or a postponement of these breakdowns until later in life. Similar gains should result from the more recent campaign to control venereal disease. For this reason, and because of improved techniques for early diagnosis, there should be some reduction in the mortality from the degenerative diseases even without the discovery of better methods for their prevention or treatment. In view of the great amount of research being done on the causes and control of cancer, it is quite possible that the number of deaths from this disease will be much lower before many years pass.

MIGRATION WITHIN THE UNITED STATES

Americans have long had the reputation of being "on the move" to a greater extent than most people. Since the early 1600s the frontiers have gradually been pushed back, and the settled areas expanded from small communities on the Atlantic coast to all the habitable portions of our 3,000,000 square miles. During most of the time the main movement was westward, in accordance with Horace Greeley's famous advice, "Turn your face to the great West, and there build up a home and fortune."

Interstate migration. The first reliable information regarding the amount of internal migration comes from the census of 1850, and is based on a comparison between the number of persons born in a state and the number (excluding foreigners) living in that state. In 1850 each state from Georgia to Maine (and Kentucky and Tennessee as well) was found to have sent its native sons to other states in greater degree than it had attracted the native sons of other states. In contrast, Florida and each state west of those mentioned had attracted natives from other states in larger numbers than it had sent its own natives to other states. The net loss through out-migration had been especially large for South Carolina, the number of persons living in South Carolina being only slightly more than half as large as the number born there. Vermont, Connecticut, Virginia, and North Carolina also had suffered a net loss of 25 percent or more. California had had the largest gain, for it contained more than ten times as many people as had been born within its boundaries! Ratios of more than 2 to 1 occurred for Michigan, Wisconsin, Iowa, Arkansas, and Texas.

Although a large westward movement continued after 1850, its influence gradually was offset by an increasing movement northward and eastward. By 1940 this had gone so far that the Northeastern states as a group had attracted about as many people born in other regions as they had lost to other regions by the departure of their own natives (Table 7). The North Central region had gained somewhat in its exchange with the South and Northeast, but had lost heavily to the West. The South had lost slightly to the Northeast and more heavily to the North Center and West. The West had gained greatly from the North Center, moderately from the South, and slightly from the Northeast. Vermont and Iowa are the only states showing in 1940 a net loss of 20 percent or more through interstate migration, but 15 other states (mostly in the Midwest and Southeast) had lost more than 10 percent. California had benefited the most from migration,

for nearly 3,400,000 persons--almost half its population--had been born in other states. Florida, Arizona, Nevada, Oregon, and Washington also owed much of their pre-1940 growth to a net inward movement.

Table 7. Birth Residence Index: 1940.

Residence, 1940	Total Migrants	Population born in:			
		The Northeastern States	The North Central States	The South	The West
United States	12,790,762	2,300,273	5,286,203	4,752,658	451,628
The Northeastern States	1,897,810	—	620,551	1,194,331	82,928
The North Central States	3,520,760	1,030,349	—	2,262,648	227,763
The South	2,216,416	673,836	1,401,643	—	140,937
The West	5,155,776	596,088	3,264,009	1,295,679	—

Prepared by Henry S. Shryock, Jr. and Hope T. Eldridge based on data from the Sixteenth Census of the United States, 1940, State of Birth of the Native Population, Bureau of the Census, Washington, D. C. Used by permission.

During World War II the migration of the civilian population followed the general pattern just described but took place on a larger scale. Nearly 15,000,000 civilians were classified as migrants during the three years 1942-44, compared with about 14,000,000 during the five years 1935-39 and smaller numbers during preceding periods. Again it was California that attracted outsiders in greatest numbers, with some of its neighbors not far behind. In consequence, California now ranks third in population, having passed Ohio and Illinois since 1940; before 1950 it probably will pass Pennsylvania and rank second.

Migration by color, age, and sex. The white and colored populations appear to have been equally mobile during recent decades, for in 1940 approximately one out of four persons in each group was living outside the state in which he was born. The situation changed temporarily during 1935-39, when the proportion of the population classified as migrating was half again as high among white persons (12.3 percent) as among colored persons (8.5 percent). From 1940 to 1947, however, about one person in five in each group has moved across county lines.

Migration rates were highest for young adults and lowest for elderly persons during 1935-39 and 1940-47, and probably during most other years also. Because an important proportion of the young adults who move have married previously and started their families, the migration rate for children under fourteen has been higher than that for persons middle-aged or older. Youngsters of high-school age (fourteen to seventeen) have been least likely to move among the population under fifty.

Although men are usually thought to be more foot-loose than women, the proportion that makes one or more moves has been about the same for

each sex. This is confirmed by a comparison of state of birth and state of residence for 1940, and also by the census data on migration during 1935-39 and 1940-47. If the number of moves could be counted, however, it might be found substantially higher for males than for females.

The rural-urban movement. For many decades a high proportion of the persons migrating within the nation were moving to new land, which they began to farm. During the nineteenth century the situation was completely changed by the industrial development, for it greatly stimulated the growth of cities. In 1790 nearly 95 percent of the population were classified as rural, and only 33,000 people lived in the largest city (New York). By 1850 the rural proportion had dropped below 85 percent, and New Yorkers numbered over 500,000. Since then the urban trend has been accelerated. By 1900 barely 60 percent of the population lived in rural areas, nearly 20 percent were in cities of 100,000 or more, and three cities were over the million mark. By 1940 only 43 percent were rural, 29 percent were in cities of 100,000 or more, and five cities were in the million class (Table 8).

Table 8. Proportion of the Population in Rural Areas, and in Cities of Specified Size, Selected Years, 1820-1940.

Year	Rural		2,500-25,000	25,000-250,000	250,000-1,000,000	1,000,000 and over
1820	92.8		3.9	3.3	---	---
1840	89.2		5.3	3.7	1.8	---
1860	80.2		7.8	6.7	5.2	---
1880	71.8		11.9	8.4	6.4	2.4
1900	60.3		13.7	11.6	6.0	8.5
1910	54.3		14.7	14.2	7.6	9.2
	Rural Farm	Rural Nonfarm				
1920	29.7	19.1	15.5	16.0	10.2	9.6
1930	24.6	19.3	16.0	16.6	11.2	12.3
1940	22.9	20.5	16.5	17.1	10.8	12.1

The great urban growth came about in important degree through migration from other areas, but the net inward movement prior to 1935 can only be estimated roughly for cities with the most reliable birth statistics. Net migration to New York City probably accounted for 70-80 percent of its population increase from 1900 to 1910, and the excess of births over deaths for only 20-30 percent. (In this case, however, the majority of the migrants came from abroad rather than from other parts of the United States.) The proportions were almost reversed during 1910-30, when about 70 percent of the growth came from natural increase and only 30 percent from migration. The two were of approximately equal importance during 1920-30 and 1930-40.

Los Angeles is the outstanding example of a large city which has grown from migration. Its population was about 577,000 in 1920; 1,238,000 in 1930; and 1,504,000 in 1940. Of the 661,000 increase during 1920-30,

approximately 90 percent came from net migration and only 10 percent from an excess of births over deaths. The latter was somewhat more important during 1930-40; nevertheless, nearly 85 percent of the increase came from net migration.

The urban fringe. During the past 20-30 years automobiles and paved roads have enabled people to live in the rural areas surrounding cities, but to continue to work in the cities. At the same time the development of tractors and other laborsaving machinery has reduced not only the proportion of the population on farms but the actual number of persons as well, the reduction exceeding 1,000,000 from 1920 to 1940, and 3,200,000 from 1940 to 1947. In consequence, the rural population has come to consist more and more of persons who are like city folk rather than farmers. The rural-nonfarm group was less than two thirds as numerous as the farm group in 1920, but outnumbers it by a wide margin (probably about 4,000,000) at present. The movement to rural areas around cities apparently has even checked the growth of cities, for the rate of increase from 1930 to 1940 for the rural-nonfarm population (nearly 15 percent) was almost double that of the urban population (less than 8 percent). A more striking illustration of this tendency is found inthe 140 metropolitan districts, where the rate of gain from 1930 to 1940 was about 30 percent for the rural-nonfarm population, but less than 6 percent for the urban population.

Decentralization? Unless war can be prevented, or at least as long as atomic bombs can be used in war, it seems criminal from a military standpoint to permit further increases in the concentration of population in and around large cities. To stop the trend in this direction, however, probably will require government action of some type. Private enterprise apparently finds it more profitable in a large proportion of cases to expand facilities for production in or near large cities than elsewhere. To sacrifice lower costs during an unknown number of years in return for making the nation somewhat stronger from a military standpoint and the factory safer in case of war is a choice few business executives can make for various reasons. So far there has been much talk of the need for real decentralization of population and industry, but little or no progress toward bringing it about. Unless some agency capable of keeping world peace is developed, it is to be hoped that some feasible method of stimulating decentralization will be devised.

THE COMPOSITION OF THE POPULATION

Country of origin. The proportion of white persons in the population increased steadily from 1790 to 1930. In 1790 approximately 81 percent were white; by 1930 this had risen to nearly 90 percent. Since then the Negro group has gained slightly in relative importance. Others—Indians, Chinese, Japanese, etc.—have amounted to less than 1 percent of the population in each census. Indians would have been more important in the censuses before 1890, however, if those in Indian Territory and on all Indian reservations had been enumerated.

When the nation obtained its independence most of the white population was of British origin (nearly 80 percent), with the German group second

(over 7 percent), and the Irish third (over 4 percent). Although many thousand Britons immigrated in subsequent decades, they were outnumbered by Germans and Irish, especially around the middle of the nineteenth century. Toward the end of that century the immigration stream changed more radically in composition, the proportion of persons from northern and western Europe decreasing and the proportion from southern and eastern Europe rising rapidly. The net result was that by 1920 persons of all northern and western European stocks made up about 83 percent of the white population (compared with about 98 percent in 1790) and persons of all other stocks nearly 17 percent (compared with about 2 percent in 1790). The British group had declined to about 44 percent, the German group had risen to over 16 percent, the Irish group to over 11 percent, the Polish group to over 4 percent, and the Italian group to over 3 percent.

The southern and eastern European group would have become considerably more important since 1920 had it not been for the quota restrictions that have been in force since shortly after the close of World War I. During most of this period the number of immigrants from countries inthe Eastern Hemisphere could not exceed 150,000 in any year, and the proportion of the 150,000 allotted to each country depended on the importance of that stock in our 1920 population. In consequence, there have been no large changes since 1920 in the relative numbers of persons belonging to the various stocks. Because the more recent immigrants had higher birth rates than others part of the time after 1920, the Italian, Polish, and other southern and eastern European stocks probably compose a slightly larger proportion of the population at present than in 1920.

Little change in the distribution of the population by country of origin is to be expected in the next few decades. Relatively few persons--barely 0.1 percent of our present population--can come annually from quota nations, and relatively few actually do come from nonquota nations. Moreover, as mentioned above, immigrants from quota nations are distributed by stock like our 1920 population. Although the millions of immigrants from southern and eastern Europe who arrived during 1900-25 had larger families than the rest of the population, and for a time contributed more than their share to population growth, most of their children haveadopted the American fertility pattern and have small families.

The sex ratio. Every census has shown more males than females in the United States. The number of males per 100 females varied between 102 and 105 from 1790 to 1900, reached a high of 106 in 1910, and declined to 100.7 in 1940. Subsequent estimates indicate that the decline has continued, and that the ratio was slightly above 99 on July 1, 1948. The excess of males in the population of 1940 and earlier years was due in part to the excess among immigrants, the number of males per 100 females in this group varying between 140 and 230 in most years prior to World War I. The more important factors in the aggregate, however, were the birth of about 105 boys for every 100 girls, and death rates for females which were nearly as high as those for males. The decline in the sex ratio since 1910 has resulted from the large reduction in immigration, and from greater progress in lowering death rates of females than of males. Because the full effect of the latter has not been felt as yet, further declines in the sex ratio are to be expected.

Although males have outnumbered females in the total population until very recently, the reverse has been (and still is) true for old people. At age eighty and over there have been only 80-90 males per 100 females--the result of higher death rates for men than for women, especially after age forty. The two sexes have been equally represented among persons in the seventies, but males usually have predominated at ages under seventy. The general pattern has been as follows: Starting with about 105 males per 100 females at birth, the sex ratio has declined until the teen ages, because of higher death rates for boys than girls. Formerly the ratio rose from the teens to middle life because of the excess of males among immigrants, going as high as 118 at ages fifty to fifty-four in 1910. In recent years, however, the decline has continued to the young adult ages and the subsequent rise has been smaller. At present there probably are slightly fewer men than women at most ages from twenty-five to forty-five, and only a small excess of men at ages fifty to sixty-five. These changes may have reduced slightly the ratio of prospective grooms to prospective brides at the ages when most persons marry for the first time, but it is unlikely that they have had, or will have, a significant effect on the proportion of men and women who marry at some time.

Age composition. As the nation has become older the average age of its population has risen also. In 1800 half the people were sixteen or younger; a century later the median age had risen to almost twenty-three years; now it is almost thirty. Future years are sure to see a further rise, perhaps to thirty-four by 1975.

The aging of the population has come about primarily because of the large decline of the birth rate, which has meant relatively fewer babies year by year. With over 50 births per 1,000 persons (as before 1830), nearly 20 percent of the population were less than five years old, but with fewer than 20 births per 1,000 persons (as during the 1930s) it is impossible for as much as 10 percent of the population to be younger than five. Second in importance during the past 30 years has been the large decrease in immigration. The millions of young adults who arrived during 1900-14 have gradually moved into the older age groups and have not been replaced in the younger groups because of the restrictions imposed on the inward movement. Third in importance during this period (but second earlier) is the large reduction in the death rates of children and young adults. This has increased the percentage of persons living to age seventy or older from less than 20 for those born in 1780 to more than 33 for those born in 1880, and will bring much larger gains in longevity for the babies of later years.

The foregoing changes have been accompanied by a substantial decrease in the relative number of children in the population. In 1820 children under five made up over 18 percent of the population; by 1900 the proportion had declined to barely 12 percent, and by 1935 to less than 8 percent (Table 9). The rise in the birth rate since 1933 will make this group exceed 9 percent of the population in 1950, but subsequent years are almost certain to see a further decline, probably to well below the 1935 ratio.

School-aged youngsters and their older brothers and sisters (fifteen to nineteen), most of whom are also attending school or have only recently

Table 9. Proportion of the Population in Specified Age Groups, Selected Years, 1850-1946.

Year	Under 5	5-14	15-19	20-29	30-44	45-64	65 and over
1850	15.1	26.5	10.9	18.4	16.6	9.9	2.6
1870	14.3	24.9	10.5	17.7	17.6	11.9	3.0
1890	12.2	23.3	10.5	18.2	18.6	13.1	3.8
1910	11.6	20.5	9.9	18.7	20.3	14.6	4.3
1920	10.9	20.9	8.9	17.4	21.0	16.2	4.7
1930	9.3	20.1	9.4	16.9	21.4	17.5	5.5
1940	8.0	17.0	9.4	17.2	21.7	19.8	6.9
1946	9.5	15.7	8.1	16.8	21.9	20.5	7.3

gone to work, also have declined greatly in relative importance. In 1820 this group composed nearly 40 percent of the population; by 1900 the percentage had decreased to 32 and by 1945 to 24. Still further reductions are in prospect, though probably not to as low as 20 percent until after 1975.

The fluctuations in the school-aged group during the next few years will cause serious problems for school administrators. In September 1947 there were approximately 2,500,000 children of the usual age to enter the first grade. In September 1953 there will be more than 3,700,000--an increase of 1,200,000, or nearly 50 percent! (Table 10.) The increase in the potential grammar-school population will also be striking. In September 1947 there were about 18,000,000 youngsters aged six through thirteen, but in September 1953 there will be about 23,000,000. This gain of 5,000,000 (over 27 percent) will have grade schools bulging at their doors unless there is an adequate building program during the next 5 years. Finding a sufficient number of teachers for the first grade will be very difficult in 1953 unless the teacher-training institutions turn out many more than the usual number of qualified persons during the next few years, or unless former teachers can be induced to return to classroom work.

Table 10. Number of Children of the Usual Age to Enter the First Grade September, 1945-1953

Year	Children (Millions)
1945	2.3
1946	2.4
1947	2.6
1948	2.8
1949	3.0
1950	2.8
1951	2.8
1952	3.3
1953	3.7

The proportion of young adults (twenty to twenty-nine) in the population has been comparatively stable, fluctuating between 16.8 and 18.8 percent for more than a century. This has been the pivotal group, for all younger groups have had medium-to-large decreases in relative numbers, and all older groups medium-to-large increases. For ages thirty to forty-four as a whole the increase has been large, persons of these ages making up nearly 22 percent of the population in 1945, compared with less than 15 percent before 1830. Because twenty to forty-four includes the best working ages in most occupations, the increasing concentration of the population in these ages has been one of the factors tending to raise the level of living in the United States during past years. The group will have no such influence in the future, however, for it probably will change but little in relative size during the next few years and then decrease slowly.

Persons middle-aged or somewhat older (forty-five to sixty-four) are more than twice as numerous compared with other persons as they were a hundred years or more ago. In 1840 this group included about 9 percent of the population; now it includes over 20 percent (Table 9). Further increases are to be expected in the future, probably to between 23 and 26 percent by 1975. Nearly 90 percent of the men and 20 percent of the women of these ages were gainfully employed in 1940; they made up more than one fourth of the labor force. By 1960 this proportion is expected to rise to nearly one third. The success of employers in industry and other fields in adapting their activities so as to use to advantage many more older workers and fewer younger workers may have a significant effect on the change in our level of living during coming decades.

It is the elders--persons sixty-five and over--that have had the largest relative gain in the population. In 1840 less than 3 percent of our people were sixty-five or older; now more than 7 percent are in this group. During the next 25 years the proportion probably will rise to about 11 percent--more than half again as large as at present. This large increase will call for a corresponding expansion in the services and institutions needed by older people.

Although the number of dependent elders will increase greatly in the future, the total proportion of dependent persons in the population will change little if any because of the decrease in the proportion of the population younger than eighteen. In other words, no marked increase is to be expected in the ratio of consumers to producers. Instead, the tendency for a larger proportion of women to enter the labor market is likely to lower the consumer-producer ratio.

OUTLOOOK FOR THE FUTURE

The continued slowing up of population growth in the United States that is to be expected is highly desirable from the standpoint of the pressure of population on resources. Moreover, as less of our productive energy needs to be devoted to providing the things needed by additional people, it should be possible to devote more of it to producing things for the people already here. The resulting change in emphasis should help to raise the standard of living.

In the old days of hand-to-hand conflict a nation with a slowly growing population gradually became weaker compared with a nation with a rapidly growing population. At present, in contrast, military might depends in large measure on capacity for economic production. This in turn depends in important degree on ability to have a high standard of living, for it is the difference between total production and production needed for subsistence that influences the amount of war materiel that can be made available. In consequence, a gradual deceleration of population growth by tending to raise our level of living, should increase our power to conduct modern warfare if it is necessary for us to do so.

Whether the expected aging of the population proves to be a serious handicap remains to be seen. Young adults are supposed to be more progressive, ready to change and adopt what is new; middle-aged and older persons are supposed to be more conservative, suspicious of change, and desirous of maintaining the status quo. Because of these beliefs the relative youthfulness of our population is cited frequently as one of the reasons why we have achieved the high standard of living we enjoy. If our youthfulness has had an important influence in the past, the rising proportion of older people will be a disadvantage in the future unless steps are taken to retard mental aging. Psychologists say that ability to learn reaches its peak at about age twenty, and declines extremely slowly prior to age fifty. In consequence, if mental aging occurs in important degree before fifty, it is because of a decline in the use of the ability to learn rather than in the ability itself. During future years it should be possible to change the attitudes of many people toward continuing to learn, and to expand and broaden adult educational programs in sufficient degree to more than offset the adverse effect of the rising average age of the population on its ability to progress.