

"Demographic Aspects of Our Aging Population"

by

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In April, 1950, the Seventeenth Decennial Census of the United States reported that the average person in this country was over 30 years of age. When the first Decennial Census of the United States was taken in 1790, the average person in this country was about 16 years of age. In a dramatic way these figures summarize the aging of the population in the United States, a process which has been under way for at least as long as we have census records.

The aging of the population is not a phenomenon unique to this country. It is a population trend discernible in all the nations which share Western Civilization.

The populations of those European countries which experienced industrialization before the United States, showed signs of aging earlier and have progressed further in the aging process.

In 1850, 4.1 percent of the total population of the United States were 60 years of age and older. Fifty years later, in 1900, this percentage had increased to 6.4 percent, and by 1947 to about 11.5 percent. In France 10 percent of the population was 60 years old and over in 1850, and 16 percent in 1947. In England and Sweden over 7 percent of the population were in these age categories in 1850, and 15 percent in 1947.

The proportion of older persons in a population can be used to differentiate the more "advanced" and industrialized regions of the world from the relatively "backward" ones. Approximately 7 percent of the world population was 60 years or over in 1947. In the industrialized areas of the world, including the United States, Canada, Northwest and Central Europe, Southern Europe, and Oceania, between 10 and 14 percent of the total population were 60 years of age and over.

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In areas under the initial impact of industrialization -- Eastern Europe, Japan, and the Near East -- persons 60 years old and over constituted 6 to 8 percent of the total population. In those areas which are still largely pre-industrial -- South-central Asia, Africa, and the Far East excluding Japan -- the proportion of the population 60 years of age and over was only 4 to 5 percent.

The increase in the number and proportion of older persons in the United States may, then, be considered but one manifestation of the world wide demographic revolution which has accompanied the Industrial Revolution. The growing number of aged is but one of a series of related population changes. This will be even more apparent from a closer examination of the changing age structure of the population of the United States.

#### The Changing Age Structure of the United States

On April 1, 1950, the population of the United States totalled  $150\frac{1}{2}$  million. Persons under 20 numbered  $51\frac{1}{2}$  million, and persons 60 and over, 18 million. During the 100 years between 1850 and 1950, while the total population increased six-fold and the number of younger persons only four-fold, the number of older persons increased eighteen-fold.

As a result of these changes there has been a considerable shift in the ratio of persons in the potentially dependent ages, that is, under 20 years and 60 years of age and over, to persons in the productive ages, that is persons between the age of 20 and 59. A century ago, for every 100 individuals in the productive age group of whom 121 were under 20 years of age and only 9 were 60 years of age or over. By 1950, for every 100 individuals of productive age, there were only 86 persons in the potentially dependent age group. Sixty four of these were under 20 years of age, while 22 were 60 years of age or over. The ratio of all persons in the dependent ages to all persons in the productive ages decreased by 34 percent in this century. The ratio of persons under 20 years of age to the productive group

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decreased by 47 percent, however, while the ratio of persons 60 years and over to persons of productive age increased by more than 140 percent.

The changes in the population structure of the United States are increasing the numbers and proportion of older, potentially dependent persons and this trend will undoubtedly continue for some time to come.

### Factors in Aging

Changes in the number and composition of the population are effected through the interaction of three factors: fertility, mortality, and immigration. The interrelationships of births, deaths, and population movements have been profoundly affected by our changing way of life. Industrialization and its related technological, economic and cultural changes generally resulted in a decline in mortality and fertility and set in motion waves of immigration of peoples within and across national boundaries.

Each change in the pattern of birth or death rates or in the volume of immigration is reflected in the age structure of a population. In both the short and long run a declining birth rate decreases the proportion of young people and results in an increased proportion of older people. A declining death rate, in the short run, also increases the proportion of younger persons because mortality gains are greatest for infants and younger persons. In the long run, however, decreasing mortality increases the number and proportion of older persons. Immigration into a country in any quantity usually tends to increase the proportion of younger persons since immigrants are usually young adults. The opposite effect occurs in the population structure of a country with prolonged emigration.

In the United States declining fertility and mortality have operated historically to produce an aging population. Until the passage of restrictive immigration laws in the 1920's the tendency toward aging was retarded by the influx of large numbers of immigrants. With the decline in immigration and the changes in birth

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and death rates which have occurred since the 1920's the population of the United States has aged more rapidly than ever before.

Death rates in the United States have been declining for at least as long as any records are available. The data for the period before 1900 are fragmentary. In 1850, however, expectation of life at birth, a summary measure of the death rate at all ages, was 38.3 years for white males in Massachusetts. By 1900 Massachusetts male expectation of life at birth had increased to 44.3 years and by 1940 to 63.3 years. For the original registration states in the United States in 1900, the life expectation for white males was 48.2 years. By 1948 life expectancy for white males in the Continental United States had increased to 65.5 years.

From these data it would seem that between 1850 and the present expectation of life at birth has increased by about 27 years for white males. The corresponding increase for white women has been about 30 years -- an increase of about 70 per cent in average longevity.

The most phenomenal declines in mortality have occurred in infant mortality and through the conquering of infectious diseases. As a result, expectation of life has not increased uniformly at all ages of the population. In the first half of this century, while the expectation of life at birth for white males increased by over 17 years, expectation of life for those at age 20 increased by less than 7 years, at age 40 by 3 years, and for those who had reached 65, by only one year.

The relatively small gains since 1900 in the expectation of life of those at the higher ages focus attention on the next frontier in the conquest of disease -- chronic and degenerative conditions. One third of all deaths in 1900 were attributable to pneumonia, influenza, and tuberculosis, diseases of the younger and middle years. By 1948 these three infectious diseases accounted for less than 7 percent of all deaths. The leading causes of death in 1948 were diseases of

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older persons -- of heart diseases accounting for almost one-third of all deaths, cancer accounting for one-seventh of all deaths, and cerebral hemorrhage and nephritis.

Like the death rate, the birth rate of the United States also has been declining for at least as long as records are available. It has been estimated by Thompson and Whelpton that in 1800 the birth rate was at a level of 55 per 1000. By 1940 the birth rate had declined to 17.9 per 1000, roughly one-third of its 1800 level. Since 1940 the United States has experienced a sharp cyclical upswing in the birth rate. This cannot be interpreted, however, as a reversal in the long-run decline.

Immigration has made an important contribution to the total population of the United States and to its age structure. Between 1820 and 1950 almost 40 million immigrants entered the United States. The peak in immigration was reached during the decade between 1900 and 1910 when almost 9 million foreign-born persons entered this country. Since that time the volume of immigration has fallen off sharply, and, indeed, stopped almost completely after the passage of the quota immigration laws.

Between 1930 and 1940 emigrants from this country actually exceeded the number of newcomers by about 50,000 people. Between 1940 and 1950, even with special provisions for refugees and displaced persons, net immigration into the United States barely reached one million.

Despite the belief of many persons, that the decrease in the death rate has been the most important factor in the aging in the population of the United States, this has not actually been the case up to the present time. Warren S. Thompson has indicated that the factors in the aging of the population, in order of importance are: declines in fertility, declines in mortality, and declines in immigration. Dr. Valaoras has documented this conclusion in a recent paper. One

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reason that declining fertility has been a more important factor in population aging than declining mortality is the fact that most of the mortality gains achieved to the present have been at the younger ages. In the coming decades, however, it is expected that declining mortality will increase in its relative importance as a factor responsible for the aging of our people.

The influence of all these factors -- declining mortality, declining fertility and the restriction of immigration -- has resulted in a more rapid aging of the population of the United States in the 20 years between 1920 and 1940 than occurred in the 30 years between 1890 and 1920. The median age of the population increased by only 3.3 years between 1890 and 1920, and by 3.7 years from 25.3 to 29.0 between 1920 and 1940. The great increase in the birth rate since 1940 has somewhat retarded the aging process.

Up to this point we have discussed persons 60 years and older as constituting the aged. This has been an arbitrary definition useful for international comparison and for reconstructing the historical trends in the United States in the past century. Since in recent censuses more detailed information is available for persons 65 years of age and over, the remaining materials will focus largely on persons in this age category.

#### Characteristics of Older Persons

Older persons in the United States differ considerably in general population characteristics from the total population. The 1940 Census of population provides the most recent data for a detailed analysis of these differences, although in some instances, later data are available from sampling studies.

In 1940, there were somewhat more than 9 million persons, 65 years of age and over in the United States, making up almost 7 percent of the total population. The ratio of men to women in this older group differed from the sex ratio of the

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general population. Although in the total population males were in the majority (50.2) percent), women outnumbered men among older people constituting 51. percent of the older group. This may be expressed in another way by saying that in the total population there were 100.7 men for each 100 women, while in the older group there were 95.5 men for each 100 women. This excess of women compared to men becomes increasingly marked in the ages above 65. At age 75 and over, for example, there were only 88 men for each 100 women. These differences in the sex composition of our older population, which become greater with age, result from the lower mortality rates for women. A white female born in 1948 had a life expectancy of 71.0 years, while a white male, for the same year, had a life expectancy of only 65.5 years. Interestingly enough, the differences in life expectancy between men and women has been increasing steadily.

The older age group also differs significantly from the total population in their color and nativity. Compared to the total population, older people include a greater proportion of foreign-born persons, and a lesser proportion of non-whites. Roughly 1 of every 5 older persons is foreign-born, compared with 1 of every 10 persons in the total population. This sharp difference results from the restriction in immigration which, if continued, will virtually eliminate the foreign-born as a significant proportion of our population. While over 10 percent of the population of the United States have been classified as non-whites, only 7 percent of older persons are in this category. Here we see the result of the differential death rates for whites, and non-whites, with the higher death rates of the latter group leaving a smaller number of persons in the older age brackets.

The marital status and family living arrangements of older people also differ from the total population. In 1949, according to a sample survey of the Bureau of the Census, well over half (54 percent) of older women were widowed. Only

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12 percent of all females 14 years of age and over were widowed. Approximately compared with two-thirds (66 percent) of all women 14 and older one-third (37 percent) of the older women were married, as / . Only 8 percent of the older women were single, compared with 20 percent of the total female population.

Because of the differential death rates by sex, a lesser proportion of older men than of older women were widowed. Nevertheless, almost one-fourth (24 percent) of men 65 years of age and over were widowed, as contrasted with only 4 percent of all men 14 years of age and over. Approximately the same proportions of older men and of men 14 years of age and over were married, 66 percent as compared with 68 percent. Only 8 percent of the older men, compared with 26 percent of all men 14 years of age and over, were single. In the total population 65 years of age and over, 39.8 percent were widowed, 8.2 percent were single, and 50.7 percent were married persons. Thus, almost half of all older people were unmarried persons, a factor which plays an important part in the living arrangements of this age group.

Most of our older people live in private households, as distinct from what the Census calls quasi-households, which include institutions, rooming houses, transient hotels, and the like. A significantly large proportion of old people, however, do not live with relatives, although they are members of private households. Of the total population 65 years of age and over in 1949 slightly more than three-fourths (78.4 percent) lived in private households with related persons. cent) lived in private households with persons to whom they are not related, About one-sixth (17.3 per- / and about 1 in 23 ( 4.3 percent ) lived in quasi-households. Thus, over one-fifth of our older people (21.6 percent) are spending their later years in living arrangements apart from their families or relatives.

The living arrangements of older women are quite different from those of older men. Women live longer than men, and consequently more of them are widowed and must give up their own homes. Only three-fourths of the women 65

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years of age and over (75.7 percent) as compared with over four-fifths of the men (81.5 percent) live with related persons in private households. A large proportion of women, over one-fifth (21.5 percent) as contrasted with one-eighth of the men (12.5 percent), live in private households with persons who are not related to them. On the other hand, only 1 in 36 of the older women (2.8 percent) compared with 1 in 17 of the older men (6.0 percent) live in quasi-households. As a result, one-fourth of all older women, as compared with one-fifth of older men, find it necessary to accommodate themselves to non-family living arrangements in their later years.

Finally, an examination of the educational background of the older population is important because of its implications for programs dealing with older people. As we know, in recent decades increasing proportions of the population have had the opportunity to obtain higher forms of education than that represented by the older exposure to the "three R's." It is not surprising therefore, that there is a high inverse correlation between age and years of formal education. Older persons are predominantly a group with only grade school education. In 1940, persons 65 years of age and over had on the average (median) 7.7 years of schooling, or slightly less than a completed elementary school education. In contrast, all persons, 25 years of age and over, had completed 9 years of schooling on the average, or 1 year of high school training. The group 25 to 29 years of age had completed on the average 12 years of schooling or the equivalent of 4 years of high school. Almost three-fourths of all older persons (72.4 percent) had 8 years of school or less, and one-fifth of all older persons reported that they had completed less than 5 years of school. Less than half (49.5 percent) of all persons 25 years of age and over reported 8 grades of school, and only one in ten (10.8) had less than five grades of school. Only one-tenth (9.8 percent) of the older people had completed high school, and only one in thirty (3.3 percent)

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had completed college. In the population 25 years of age and over, over one-fifth (20.5 percent) had completed high school, and one in nineteen (5.4 percent) had completed college

#### Geographical Distribution

The older population is not distributed in a uniform manner throughout the United States. Differential fertility, mortality and migration between states have produced discernible differences in the geographical distribution of our older citizens. On a broad regional basis in 1948, both the largest

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number of persons 65 years of age and over and the highest proportion of such persons were to be found in the North Central states as these are defined by the Census. These twelve states had 3,633,000 persons in the older age group who constituted 8.4 percent of their total population. In the North Eastern states and in the Western states exactly the same proportion, 7.9 percent of the total population, was 65 years of age and over, although the former states included the larger number of older persons, 3,065,000 compared to 1,509,000. The South with 2,731,000 persons in the older age group had the smallest proportion of older people in its population 6.1 percent.

Among the individual states, the proportion of older persons estimated at 7.5 percent for the United States as a whole, varied from about 5 percent in New Mexico to about 10 percent in New Hampshire. Older people were found in larger proportions (between 9 and 10 percent) in the New England states of Maine, Vermont and New Hampshire and in some of the Corn Belt states, Iowa, Kansas and Missouri. The states with the smallest proportion of older persons (ranging from 4 to 6 percent) were concentrated in the South, South Carolina, North Carolina, Alabama, Louisiana, Mississippi and Georgia, and in the Mountain States, New Mexico, Arizona and Utah. Despite the prevalent belief that Florida and California are the two states with the highest proportion of older people, only 7.3 percent of the population of Florida and 8.1 percent of the population of California were 65 years of age and over in 1948.

The proportion of older persons in the total population also varied by city size and by whether the area is farm or non-farm rural district. For urban United States as a whole in 1940 6.8 percent of the population was 65 years of age and over. There was an inverse correlation, however, between the size of the city and its percentage of older people. Those 65 years of age and over constituted only 6.5 percent of the total population in large cities of

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100,000 or more. In cities of 10,000 to 100,000 they were 7.0 percent of the population and in places from 2,500 to 10,000 population, 7.6 percent.

The proportion of older persons in rural farm areas approximated their proportion in the larger cities (6.6 percent). The low proportion of oldsters on farms is a result of the relatively high birth rate which prevails in these areas. In large cities, on the other hand, the influx of many young people from the surrounding country tends to lower the proportion of older persons.

In rural non-farm areas the proportion of older people is 7.3 percent. Rural non-farm areas as defined in the 1940 Census, however, include a heterogeneous population of suburban dwellers in large metropolitan centers as well as village residents and non-farm dwellers located in the open country. A more meaningful analysis of the older population in rural non-farm areas must, therefore, await a more precise definition of this type of area which will be forthcoming in the 1950 Census.

In summary, on a geographical basis persons in the older years are most greatly represented in the population in the North Central States and in certain New England states and least represented in the South and in parts of the West. In general, older persons are also overrepresented in our medium-size and smaller cities. An analysis of the geographical distribution of older citizens discloses that the differences in their distribution result largely from the interaction of the birth rate and selective migration. The areas with relatively low proportions of persons 65 years of age and over tend to be areas of high birth rates, such as the South, and of high immigration, that is, the large cities. The areas with relatively high proportions of older people tend to be the areas with low birth rates or areas of high out-migration. Despite the general impression that large numbers of older persons flock to Florida and California, the proportion of older people in these states is not extremely high. The migration of younger persons, rather than the relatively

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small movement of older people, is the major factor in accounting for the proportions of older people in the various regions of the United States.

### Participation in the Labor Force

For the vast majority of our older people, as well as for our population at large, employment is the predominant medium through which self-support is achieved and dependency avoided. In our society, especially for men, employment is also a major ingredient of satisfactory social and psychological adjustment. For these reasons the relation of the older population to the labor market is of special interest.

Within the last 60 years, despite the sharp decline in the labor force participation rates of both younger and older persons, the median age of workers has risen considerably. In 1890, the median age of male workers was 33.3 years, that of female workers, 24.3 years. In 1950, the median age of male workers was 38.0, and of female workers, 36.4 years. Reflecting our aging population, in 1950, over one-third (34.7 percent) of the labor force was 45 years of age and over. In 1890 about one-fourth (24.5 percent) of the labor force was in this age group.

The proportion of all men 45 years or older in the labor force declined from about 87 percent in 1890 to 79 percent in 1950. In this 60-year period, the proportion of men in the 45 to 54 year age group in the labor force remained practically unchanged, but the labor force participation rates of men 55 years of age and over, decreased appreciably. For men 55 years to 64 years of age, these rates dropped from 88 percent to 85 percent, and for men 65 years of age and over, from 68 to 45 percent. As may be seen, the major factors in accounting for the lower proportion of men over 45 in the labor force has been the decline in employment for men in the older years.

The economic aspects of withdrawal from the labor force, however, are

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more fully treated in the chapter that follows. It should be noted here, however, that the increased expectation of life as described above together with the decreased expectation of working life results in an increased time span between a man's retirement from the labor force and the end of his life. In 1900 a white male in the United States, age 25, could look forward to an average of 34.5 years more in the labor force and to an average future lifetime of 38.5 years. This left, on the average, a period of 4 years between retirement and death. By 1940, the life expectancy of the average white male of 25 had increased by 4 years while his work expectancy had increased by less than 1 year to 35.4 years. Thus, by 1940, the period between retirement and death for the average white male had increased 3 years to a total of 7 years. The increase in the aged population and the growing gap for individual workers between their total life, and their work life, expectancies have been basic factors underlying recent social security and private pension programs.

#### The Prospect

Estimates of the future population 65 years old and over can be made with greater reliability than estimates of the total population. The latter require estimation of the future course of the birth rate which is exceedingly difficult. The former requires only allowance for mortality in a population already born.

The rapidly increasing numbers of older persons at the present time and in prospect are, in the main, attributable to the increasing numbers of births in the United States in the latter part of the last century and the early part of the present century. Thus, the increase in numbers of persons 65 and over from about 3 million in 1900 to over 12 $\frac{1}{4}$  million in 1950 primarily reflects the increase in the annual number of births from 1835 to 1885.

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As a measure of the increasing importance of the problems of aging in the decades which lie ahead, it should be noted that it is estimated that the number of persons 65 and over will increase to between about 17 and 20 million in the United States in 1975. The decrease in number of births in the late 1920's and early 1930's however, will produce a temporary decline in the number of older persons between 1986 and 1998 -- a decline of perhaps 25 percent.

Despite such variations as reflect the cyclical variations of the birth rate, the long time trend, will nevertheless, for many decades to come, result in increasing numbers and proportions of older people in the United States.