



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

A Century of Population Growth and Change

Calvin L. Beale
(202) 694-5416
cbeale@ers.usda.gov

The United States began the 20th century with 76.2 million people. It ended the century with 275 million people, an extraordinary growth of about 200 million, or 3.6 times as many as there were in 1900 (fig. 1). U.S. demographic changes in the century have been just as dynamic, dramatic, surprising, and significant as so many other facets of American life. Population trends and characteristics help shape what is grown and eaten by the country's inhabitants. This article examines the most salient of these trends.

America Leaves Its Farm Roots

Among the many demographic changes in America in the 20th century, the urbanization of the population may be the most transforming. Thirty-five urbanized areas (cities plus densely settled suburbs) now have populations of over a million people, compared with just four areas in 1900 (New York, Chicago, Philadelphia, and Boston). Some of today's best known large urban areas hardly existed then. Phoenix had a population of 5,500; Miami

had only recently been incorporated and had 1,700 people. Las Vegas was so small it was not even recognized in the census until 1920. Los Angeles had begun its odyssey of growth and was up to 100,000 people, but by the 2000 Census, its urbanized area will be home to conservatively 12 million.

The United States of 1900 was a predominantly rural country, with 60 percent of its population living in the countryside or in towns of fewer than 2,500 residents (fig. 2). (Currently that percentage is below 25.) Nearly 40 percent of the population

still lived directly on farms, and numbered 30 million. (Today no more than 2 percent, or 5 million people, still live in farm-operator households.)

Although the end of the frontier had been proclaimed after the 1890 Census, new land was still being settled for farming in the Great Plains and the West in the opening decades of the 1900's. But by the end of World War I, the farm population had peaked. The supply of new land to farm had been exhausted, except where irrigation projects or drainage created more.



Throughout the 20th century, mechanization of farming separated millions of Americans from a life working the earth.

The author is a demographer with the Food and Rural Economics Division, Economic Research Service, USDA.

And with the advent of tractors and other mechanization, farming began the rapid increase in worker productivity that continues to mark the industry and that released millions of people from the soil.

Most agricultural areas suffered demographically from this success. They welcomed the substitution of labor-saving tractors and other machinery for back-breaking labor, and proudly produced larger yields and better quality grains, produce, meats, or cotton. But they were often unable to develop enough alternative types of work to offset the loss of farm jobs, and their populations declined. Over 20 Midwestern counties went through the entire 20th century showing population loss in every decennial census, so sustained and substantial have the effects of agricultural change been.

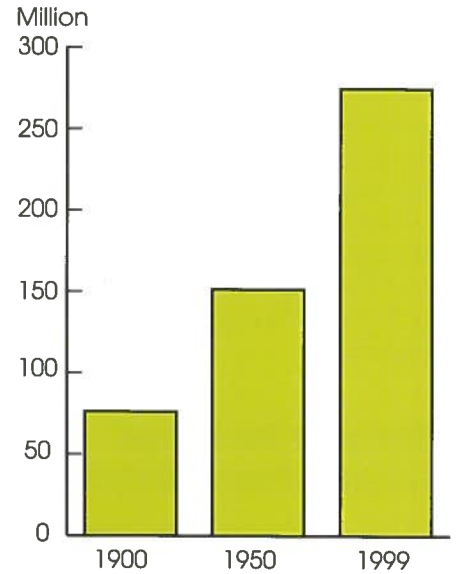
The 1920 Census results were nationally significant in two ways. They were the first to show the country with more than 100 million people, and the first to report an urban majority of 51 percent. The realization that Americans were no longer predominantly rural appears

to have been a bit of a shock, even though it was foreseeable, and even though "urban" was liberally defined. The feeling was epitomized by the action (or, more accurately, inaction) of the House of Representatives after the census results were announced. Members from rural States whose growth had been so limited during the 1910-20 decade that the States faced a loss of seats in the next Congress could not bring themselves to accept the results. The House already had 435 seats, and there was little sentiment to avoid the loss of rural seats by making the House larger.

In floor debates, some members revealed a distinct fear for the future of the country, with explicit distrust of an urban-dominated House, in part because of anxiety about the newer eastern and southern European immigrants who comprised an increasing proportion of big-city populations. Others said it was unfair to punish rural States for what they viewed as the patriotic movement of country people to the cities during World War I to work in defense industries. "Just as certain

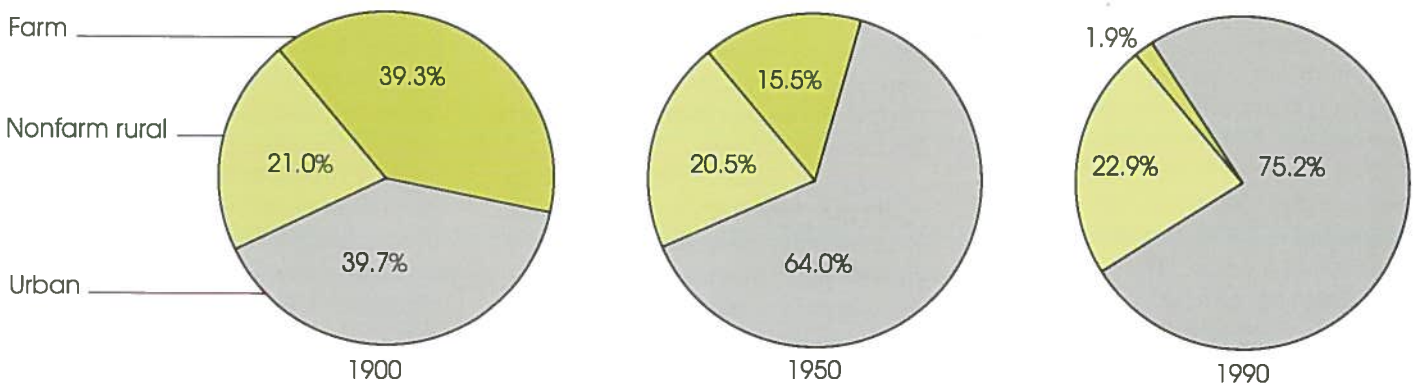
as God reigns," one Texas member declared, "in the economical readjustment of this country they must go back to the farms." A total stalemate resulted. And although apportionment is the constitutional

Figure 1
American Population Grew by 200 Million People in the 20th Century



Source: U.S. Census Bureau.

Figure 2
Urban and Farm Populations Were the Same Size in 1900; By 1990, Urban Population Was 40 Times as Large as Farm Population



Source: U.S. Census Bureau.

purpose of the Census, the House did not reapportion. The unprecedented result was that House seats continued to be based on the 1910 Census until the election of 1932. But the migration to the cities proved permanent.

In time, the movement away from farms reduced by millions the families who produced much of their own food—milk, eggs, vegetables, fruit, chickens, pork, and beef. It added greatly to those who became reliant on purchased food. And as those who remained in farming modernized and entered more into the cash economy, they, too, typically gave up home food production, except for vegetables, and joined the lines at the supermarket (see “Cooking Trends Echo Changing Roles of Women” elsewhere in this issue).

West and South See Greatest Population Gain

Although the population was concentrating residentially around cities and towns, it was decentralizing regionally. Most striking has been the growth of the West, where the 4.3 million residents of 1900 have become the 60 million of today, a fourteenfold increase (fig. 3). (The West is defined as all States containing or west of the Rocky Mountains, including Alaska and Hawaii.)

High rates of Western growth, relative to the rest of the country, have been a constant in every decade of the century. California has collected half of the growth, but all Western States except Montana have grown at multiples far higher than the country as a whole. The frontier may have been closed in the late 1800's, but the settlement of the West had only begun. Much of its

growth in recent decades has been driven by immigration.

The other major regional shift has been that to the South. That region's growth in population share has occurred almost entirely since 1950. The South had a third of the non-Western population in 1950, a trifle less than the proportion it had in 1900. Today it has 45 percent of that population and is far more populous than either the Northeast or the Midwest, which used to be its equals.

The South had been an underurbanized, undereducated, and heavily agricultural region. A successful transition to a modern industrial and services economy, boosted by the results of the civil rights revolution, and the rapid growth of Florida and other resort-retirement areas have been leading factors in the South's economic and demographic rise. Perhaps air conditioning has been also. As a product of these changes, the term “Sunbelt” has become a widely understood favorable metaphor for the character of most of the South, and parts of the West as well.

But despite the magnitude of the drift toward the West and South, it is instructive to note that the median center of the U.S. population is still no farther west or south than a point in southwestern Indiana. That is, half of the population still lives north of or east of this location, a measure of how dominant the earlier concentration of people in the Northeast and eastern Midwest had been.

Regional shifts in population can influence America's eating patterns. Regions often have distinctive food choices and cuisines, based on demographic composition, income levels, or the ethnic heritage of both older natives or more recent immigrants (see “Food Spending Varies Across the United States” elsewhere in this issue).

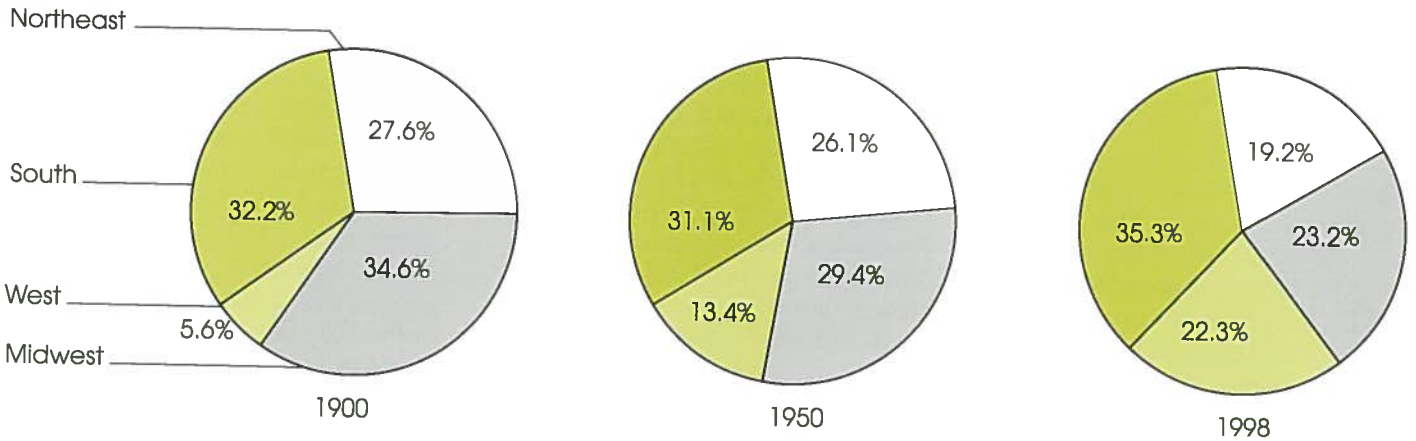
Immigration Spices Up the Melting Pot Again

As the United States entered the 20th century, its predominant White population still consisted primarily of northern and western European stock—Anglo-Colonial descendants, supplemented with numerous Germans, Irish, Scandinavians, and French. But, by the late 19th century, large-scale immigration from eastern and southern Europe, especially of Italians, Slavs (particularly Poles and Czechs), and Jews from Russia, began rapidly to add languages, cultures, and dietary habits to the melting pot that had not been common before.

This “new immigration” burgeoned from about 320,000 people in 1900 to 870,000 in 1913, before World War I interrupted the flow. The influx caused enough apprehension to produce a restrictive change in immigration law in 1921. But the gastronomic deed was done, as, for example, in the introduction of Italian cuisine, Jewish delicacies, and the entry of Greeks into the restaurant business.

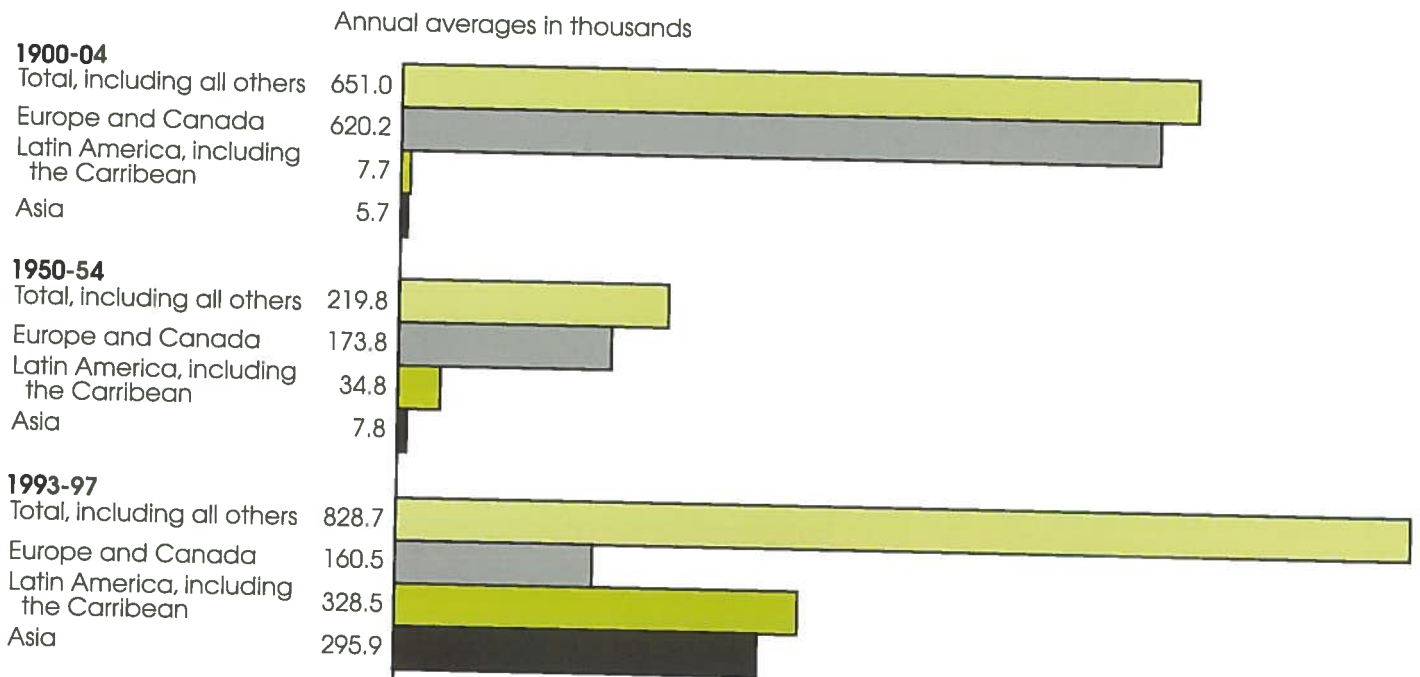
A relative immigration pause followed for over a generation. But, in the last third of the century, immigration was reshaped by a new law and two other factors—political asylum and illegal entry—that have greatly increased the inflow and changed its composition. The Immigration Reform Act of 1965, and its subsequent modifications, ended the racial and national-origin restrictions of the past. Immigrants grew rapidly thereafter and non-European nations quickly dominated the immigration streams, as they continue to today. Latin American countries, China, the Philippines, and India all are now prominent sources. The percentage of immigrants coming from Europe and

Figure 3
The Majority of Americans in 1998 Lived in the South and West



Source: U.S. Census Bureau.

Figure 4
Legal Immigration Shifted from European to Latin American and Asian Origins



Source: U.S. Immigration and Naturalization Service.

Canada dropped from 87 as late as 1940 to 16 percent in 1997 (fig. 4).

Recurring revolutions and wars created sporadic waves of refugee immigrants, such as those from Cuba, Indo-China, Iran, Iraq, Afghanistan, Haiti, East Africa, and now the Balkans. A large influx of illegal immigrants has also developed, especially from Latin America, adding greatly to the total. From all these factors, immigration into the United States now averages better than 800,000 annually, similar to the early part of the century, but in some years has exceeded 1 million.

The result has been to increase the ethnic mix further and to boost the proportion of people who are foreign born, after decades of decline. By 1998, 9.3 percent of the population was born abroad, up from 4.8 percent in 1970. More striking, however, is the fact that since 1990, 32 percent of all U.S. population growth has come from immigration, up from an already high figure of 22 percent in the 1980's.

One has only to visit any large urban supermarket to see the growing diversity of foods offered, whether imported or now domestically processed. Aromatic rices are an example, being highly favored by Asians, but also gaining general acceptance. In cities of any size, the restaurant scene has been visibly altered by the spread of Indian and Thai restaurants and Mexican-style fast food places.

The new "new immigration" is even being reflected in the entry of immigrants into farming, either to produce ethnic crops or to find a self-employment niche with older crops, often by substituting family labor for the more capital-intensive ways of native-born farmers.

Childbearing Rate Has Fluctuated

At the personal level, one of the major trends in American society during the century has been the reduction in childbearing and household size. In 1900, women who were 40 to 44 years old, and thus just ending their childbearing years, had borne an average of 455 children for every 100 women. It was an era without modern means of contraception and with low labor force participation by women.

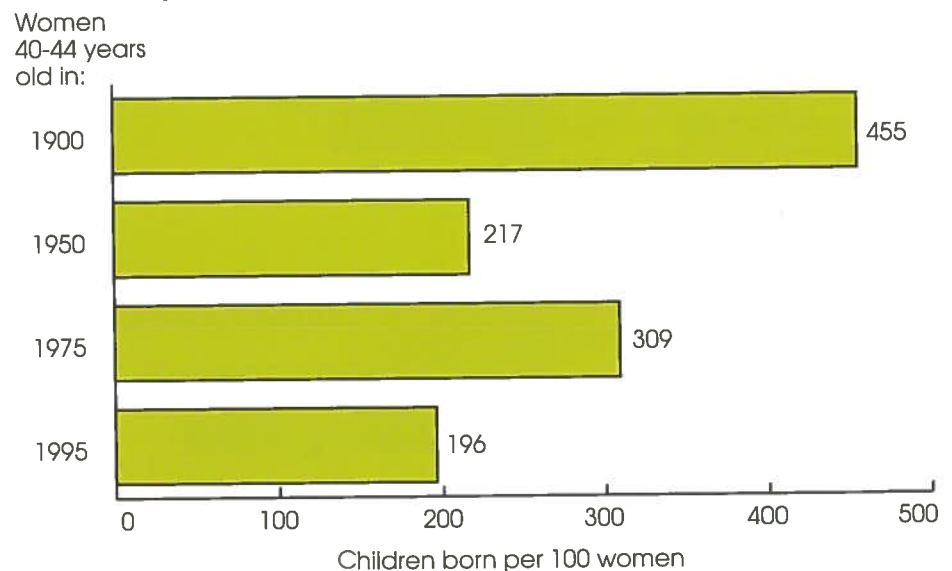
It was also a time when infant mortality was still high. Fully a tenth of all children born in the United States died within the first year of life. Today, medical and infant care are so advanced that infant mortality is only seven-tenths of 1 percent. But even with the mortality rates of 1900, close to twice as many children were being born as were needed to replace each generation. Hence, substantial population

growth was underway, quite apart from immigration.

From its rather high level in 1900, the course of 20th century childbearing was generally downward, with the "Baby Boom" period from the end of World War II to the mid-1960's being the one major exception (fig. 5). Birth rates had fallen to such a low level during the Great Depression of the 1930's, especially among urban and well-educated people, that the degree and duration of the Baby Boom came as a major surprise to demographers. The prevailing academic wisdom of the 1930's and 1940's was that the U.S. population would not reach more than 200 million by 2000 and might well be in decline before then.

There was particular astonishment, therefore, when from 1954 to 1964, over 4 million children were born each year, whereas before World War II, only one year (1921) had ever seen as many as 3 million. A higher percentage of people mar-

Figure 5
Number of Children Born Per 100 Women Fell Sharply Throughout the 20th Century, Interrupted by the Baby Boom



Source: U.S. Census Bureau, and partly estimated.

ried, and married early. Childbearing was not simply feasible, with good economic times, but also fashionable. Family size rose. (Women who were 40 to 44 years old in 1975 had borne an average of 309 children for each 100 women, compared with an average of 217 children per 100 women for those who were 40 to 44 years in 1950.) By 2000, the resulting huge bloc of children, who became the fabled "boomers," have either reached middle age or see it looming. As they have passed through successive age groups, they have greatly affected the number of people who consume the foods or practice the cooking or dining-out patterns that are associated with different ages.

Following the Baby Boom, changes in marriage and childbearing evolved that were just as inadequately forecasted as the Boom itself had been. Abortion became legal. Marriage was less universal. On one hand, childbearing became more limited and was delayed into later years, especially by well-educated couples, but at the same time, growing numbers of teenagers and young adults had children out of wedlock. These changes may have two main implications for food issues.

First is the fact that, since the early 1970's, birth rates for women of childbearing age have been at such a low level that they have been consistently lower than those during the 1930s' Depression years. They are even somewhat below generational replacement level, meaning that, if continued indefinitely, the population would begin to decline, except for immigration. This pattern is essentially confined to the non-Hispanic White population, but that population is still preponderant enough to produce a rate for the entire U.S. population that is below replacement. The U.S. population

continues to grow at present because the current childbearing group is still large, immigration is high, and people are living longer. But like most of Europe, the American population is currently choosing not to replace itself fully, a rather unprecedented social choice that contributes to the progressive rise in the average age of the population.

The second major current trend in the birth rate that is so different from the earlier part of the century is the proportion of births occurring outside of marriage. Data for the earliest part of the century are not available, but in 1940, only 4 percent of all births were to unwed parents. After 1960, the proportion began to rise rapidly. By 1975, a fourth of births were out of wedlock; by 1998, the incidence had reached a third of the total, a remarkable societal change.

The rise in out-of-wedlock childbearing, along with the coincident rise in divorce among married people, has led to major growth in the number of families headed by women with minor children and without a spouse present. Fully a third of female-headed families with children are poor as defined by Federal standards, several times the rate for two-parent families. Female-headed families with children now comprise more than half of all poor families, up from only a fourth in 1960. A trend of this magnitude has contributed greatly to the need for subsidized school meals and other public food assistance programs.

Americans Living Longer

Changes in life expectancy during the century have been as dramatic as those in any other measure. A child born in 1900 had a mean life expectancy of just 47.3 years, a figure 5 years below that of the continent of Africa today, and worse than that now found in any Asian nation

except Afghanistan. But longevity rose rapidly in the new century as public health measures, sanitation, immunization, and improved nutrition took hold, even before the era of antibiotics arrived. In particular, infant mortality and the toll from infectious diseases plummeted.

By 1950, life expectancy had risen to 68.2 years. Then, with the addition of antibiotics and high technology diagnostic and surgical procedures, it pulled ahead further in the next half century. By 1997, the mean expectancy at birth had risen to 76.5 years and it continues to climb. Median life expectancy—a less-used measure that indicates the age that half of the population will reach under current death rates—reached 80 years for the first time in 1997. The steady rise in length of life, combined with lower birth rates, elevates the proportion of the elderly in the population. And in doing so, it gradually alters household sizes, food consumption patterns, and eating locations.

One clear result of the aging of the population has been its contribution to the number of people who live alone. Tabulations on this aspect of living arrangements do not exist for the early part of the century, but by 1998, 26.3 million persons were living alone, more than triple their numbers since 1960. They occupied a full fourth of all housing units, and two-fifths of them were 65 years old or over, with this proportion steadily rising.

Whether its constituents are young or old, a many-fold rise in this smallest household type affects both food preferences and purchasing habits. Food spending per person is highest for one-person households and for persons 55 years old and over. Persons living alone also spend a higher proportion of their food money on eating out, rather than at home.

Projecting U.S. Population in 1900

In 1900 and the period of 10 years on either side of it, several projections were made of U.S. population for the 20th century. Most proved to be either far too low or far too high. Today, it is difficult to say which was the most widely held or influential at the time. One proved to be rather good, all things considered, and it was the closest to being an official forecast.

This was a projection by Henry Gannett of the U.S. Geological Survey for a National Conservation Commission report that was sent to Congress by President Theodore Roosevelt. Gannett projected 249 million people in 2000. In doing so, he was only 10 years off, for 249 million was the count in the 1990 Census. Another projection published in 1900 foresaw 386 million

by 2000. But even Gannett was essentially lucky, for such projections were of necessity just extrapolations of some curve of past Census data, rather than based on perceptions of coming changes in American life that would determine actual growth. There was not even a national vital statistics system in 1900.

The basic demographic data from which to project are much better today, both in completeness and detail. But it is difficult to foresee turning points in human behavior that affect population change, such as in preferred family size. And immigration has become something of a wild card in future growth, given the undocumented nature of much of it and the unpredictability of refugee flows.

Hispanics and Elderly Projected To Increase

So, what can be expected in the new century? Periodically, the Census Bureau prepares estimates of the future population of the United States (see box). The Bureau currently has three series of U.S. population projections extending to the year 2050, which use variations in possible future trends in fertility, mortality, and immigration, producing high, middle, and low projections, all of which are deemed in the range of possibility.

Under the low assumption, the population would actually peak by 2028, and then gradually decline to 283 million people by 2050. The

middle series most closely conforms to current trends in fertility and immigration, with some further lowering of death rates. This series would yield 394 million people by 2050, a growth of 119 million from our expected 2000 figure, or 43 percent. This would be a slightly smaller amount of growth than that seen from 1950 to 2000. Under the high projection, the U.S. population would swell to an enormous 519 million by 2050.

Should the middle series prove most accurate, 20 percent of the population would be 65 years old or over in 2050, compared with 13 percent today. The surviving Baby Boomers would all be at advanced ages, with 9 million people in their

nineties or higher. Just 1.3 million people were alive at so advanced an age in 1995.

The Census Bureau has also dared to estimate the ethnic composition of the population in 2050. At that point, the effect of the current era of immigration is dramatic. Again using the middle series, the Hispanic population (of any race) would number 96.5 million, nearly a fourth of the U.S. total, and more than 10 times the 9 million counted in 1970, the first census to identify this population nationally.

Asians and Pacific Islanders, who numbered just 7 million combined in 1990, would have a population of 34 million by 2050, because of their current and prospective high rate of immigration. The non-Hispanic White population would still be the largest of the major race/ethnic groups in 2050, with 206 million people, but would have been in slow decline for a generation because of its low level of childbearing and small number of immigrants. Non-Hispanic Blacks would number 54 million.

Demographers should be a humble breed for, like other futurists, they have often been wrong in their projections. But by their current best judgment, it is thought most likely that the population will grow on average about 2 million annually for the next half century, requiring continued substantial increases in food output and/or imports. And along with this growth should come further shifts in age and ethnic composition and location of people that will affect food consumption. ■