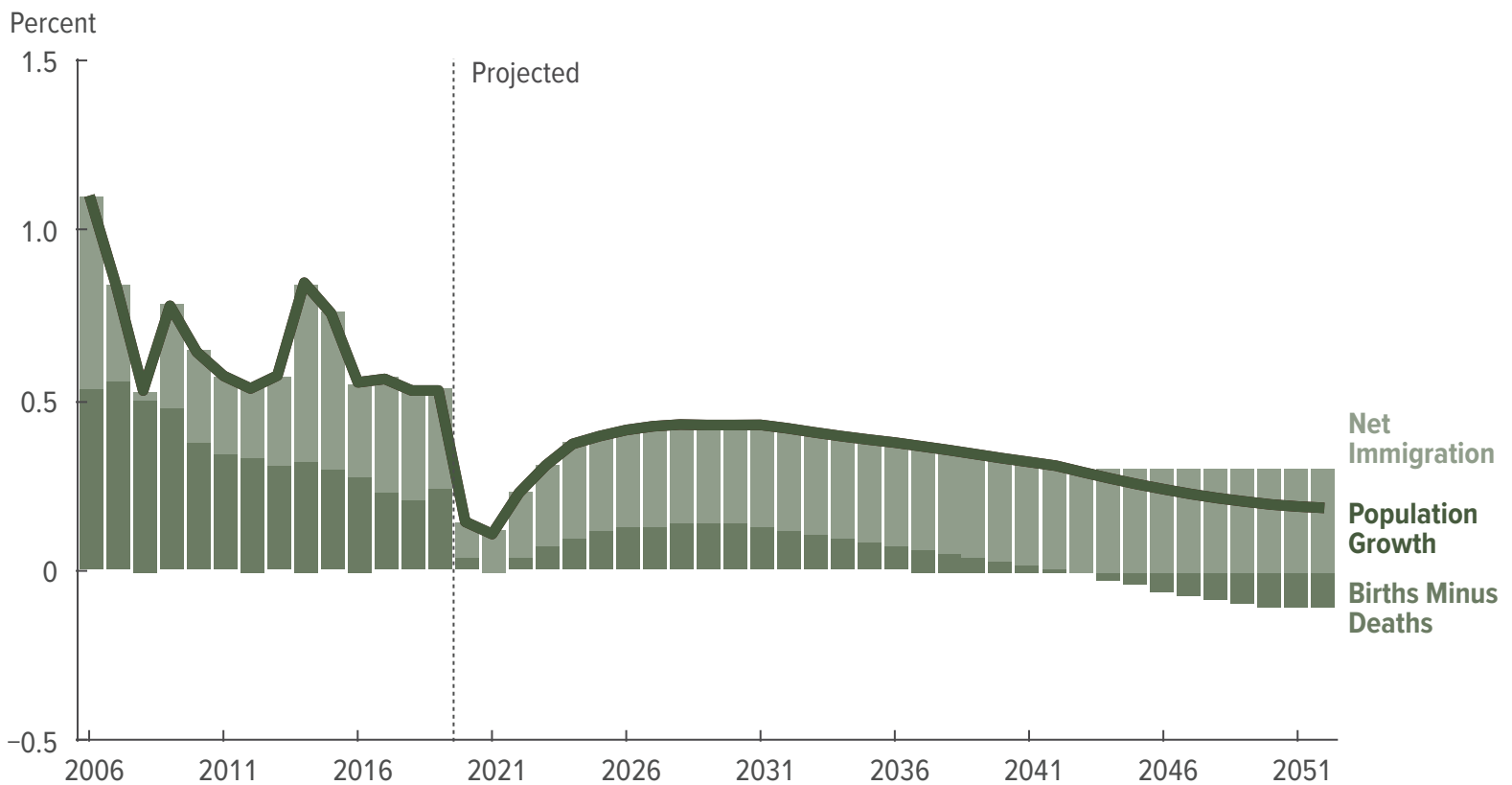




The Demographic Outlook: 2022 to 2052

Demographic Factors That Contribute to Population Growth



At a Glance

The size of the U.S. population and its age and sex composition affect federal spending, revenues, deficits, debt, and the economy. In this report, the Congressional Budget Office describes its population projections that underlie the baseline budget projections and economic forecast that CBO published in May 2022 and the long-term budget projections that the agency published in July 2022.

- **Population.** In CBO’s projections, the population increases from 335 million people in 2022 to 369 million people in 2052, expanding by 0.3 percent per year, on average. (In this report, population refers to the Social Security area population—the relevant population for the calculation of Social Security payroll taxes and benefits. See Notes and Definitions for more details.) The population is also projected to become older, on average, as growth in the number of people age 65 or older outpaces that of younger age groups.
- **Components of Population Growth.** Population growth is projected to slow over the next 30 years. As fertility rates remain below the replacement rate (the fertility rate required for a generation to exactly replace itself in the absence of immigration), population growth is increasingly driven by net immigration flows.
- **Civilian Noninstitutionalized Population.** The civilian noninstitutionalized population grows, in CBO’s projections, from 264 million people in 2022 to 298 million people in 2052. (This measure of the population includes only people age 16 or older. The agency uses it to project the size of the labor force.) The prime working age population (ages 25 to 54) grows at an average annual rate of 0.2 percent over that period, slower than its average over the 1980–2021 period (1.0 percent).
- **Changes Since Last Year.** In CBO’s current projections, the population is smaller and grows more slowly, on average, than CBO projected last year. Fertility rates are expected to be lower than the agency projected last year, reducing the size and growth of the population that is under 24 years old over the 30-year projection period. In addition, as a result of new information about the effects of COVID-19, CBO increased projected mortality rates for people age 65 or older, on average, in the first two decades of the projection period.

CBO’s projections are subject to uncertainty in the rates of fertility, mortality, and net immigration. Small differences between CBO’s projections and actual outcomes for those rates could compound over many years and significantly affect outcomes by the end of the projection period.

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Notes and Definitions

Population in this report refers to the **Social Security area population**, which includes all residents of the 50 U.S. states and the District of Columbia and civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. Armed Forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits.

The **civilian noninstitutionalized population** includes individuals who are 16 years of age or older and excludes people who are on active duty in the Armed Forces or residents of institutions such as prisons, mental facilities, and homes for the elderly.

The **total fertility rate** represents the average number of children that a woman would have if, in each year of her life, she experienced the birth rates observed or assumed for that year and if she survived her entire childbearing period, ages 14 through 49.

The Congressional Budget Office uses the term “**foreign-born people without legal status**” to refer to foreign-born people who entered the United States illegally or who entered legally in a temporary status and then remained after that legal status expired; generally, such people are not authorized to work in the United States. Foreign-born people without legal status also include beneficiaries under Temporary Protected Status, beneficiaries under policies whereby the executive branch does not seek their immediate deportation (such as Deferred Action for Childhood Arrivals), and people who are paroled and allowed into the country while awaiting deportation proceedings in immigration courts. Many of those people are authorized to work in the United States.

In this report, **life expectancy** refers to the amount of time that a person in a given year would expect to survive beyond his or her current age on the basis of that year’s mortality rates for people of various ages, sometimes referred to as period life expectancy. (That is distinct from cohort life expectancy, which incorporates projected changes in mortality rates and better reflects an individual’s actual life expectancy.)

The **age-sex adjusted mortality rate** represents the rate that would be observed if the projected mortality rates (by age and sex) occurred in a population with the same age and sex composition as the population in a reference year. CBO uses the population in 2010 (the latest year for which decennial census data were available at the time the projections in this report were produced) as its reference population.

The population on January 1 of a given year is estimated on the basis of the population on January 1 of the previous year and the projected number of people who are born or immigrate to the United States and who die or emigrate from the United States during that year.

The population projections in this report reflect developments through February 14, 2022.

The data sources for all figures in this report may be cited this way: Congressional Budget Office, using data from the Social Security Administration.

Data and supplemental information files—the data underlying the tables and figures in this report and supplemental population projections—are posted along with the report on CBO’s website (www.cbo.gov/publication/57975).

The Demographic Outlook: 2022 to 2052

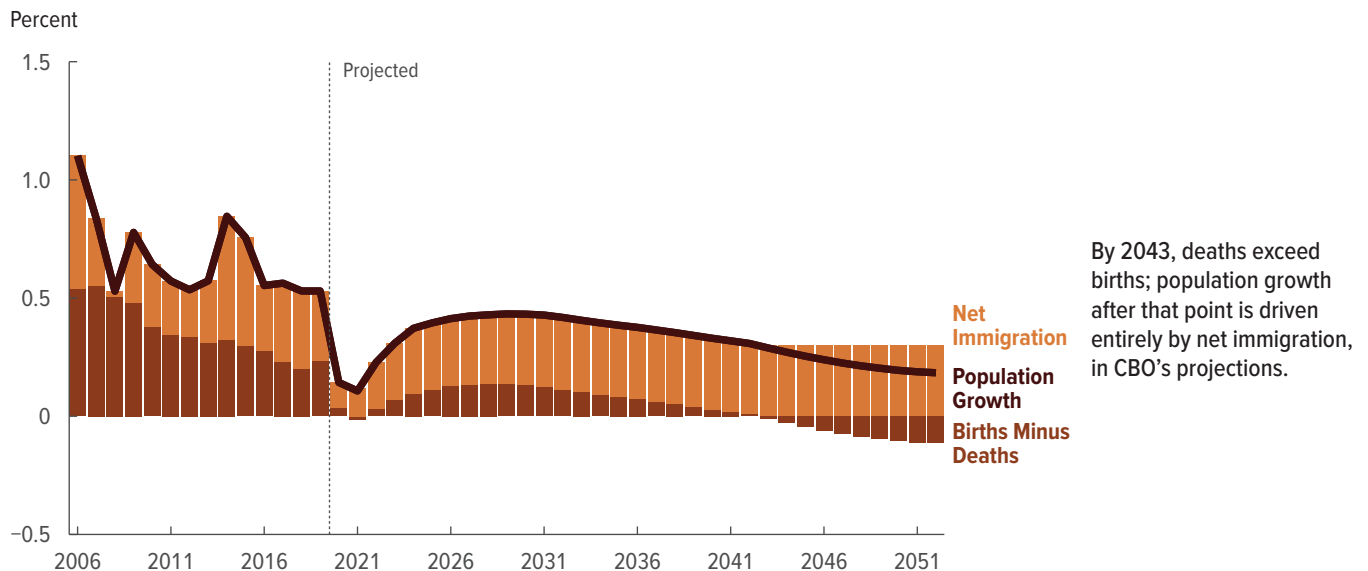
The size of the U.S. population, as well as its age and sex composition, affect the economy and the federal budget. For example, the size of the working-age population affects the number of people employed; likewise, the size of the population age 65 or older affects the number of beneficiaries of Social Security and other federal programs.

The Congressional Budget Office projects the population in future years by projecting fertility, net immigration, and mortality. (In this report, the population is the relevant population for calculating Social Security payroll taxes and benefits, known as the Social Security area population. See Notes and Definitions for more details.)

CBO's projections of the population over the next 30 years are subject to significant uncertainty. If rates of immigration, fertility, or mortality were higher or lower than the agency's projections, then the projected population would be affected more in later years of the projection period than in the earlier years because differences in those rates compound in each year of the 30-year projection period.

In CBO's projections, the population increases from 335 million people in 2022 to 369 million people in 2052. However, it grows at one-third the pace (0.3 percent), on average, from 2022 to 2052 that it did from 1980 to 2021 (0.9 percent). Over the course of the next decade, immigration accounts for about three-quarters of the overall increase in the size of the population, and the net effects of fertility and mortality account for the remaining quarter. After 2032, population growth is increasingly driven by net immigration, which accounts for all population growth in 2043 and beyond.

Demographic Factors That Contribute to Population Growth

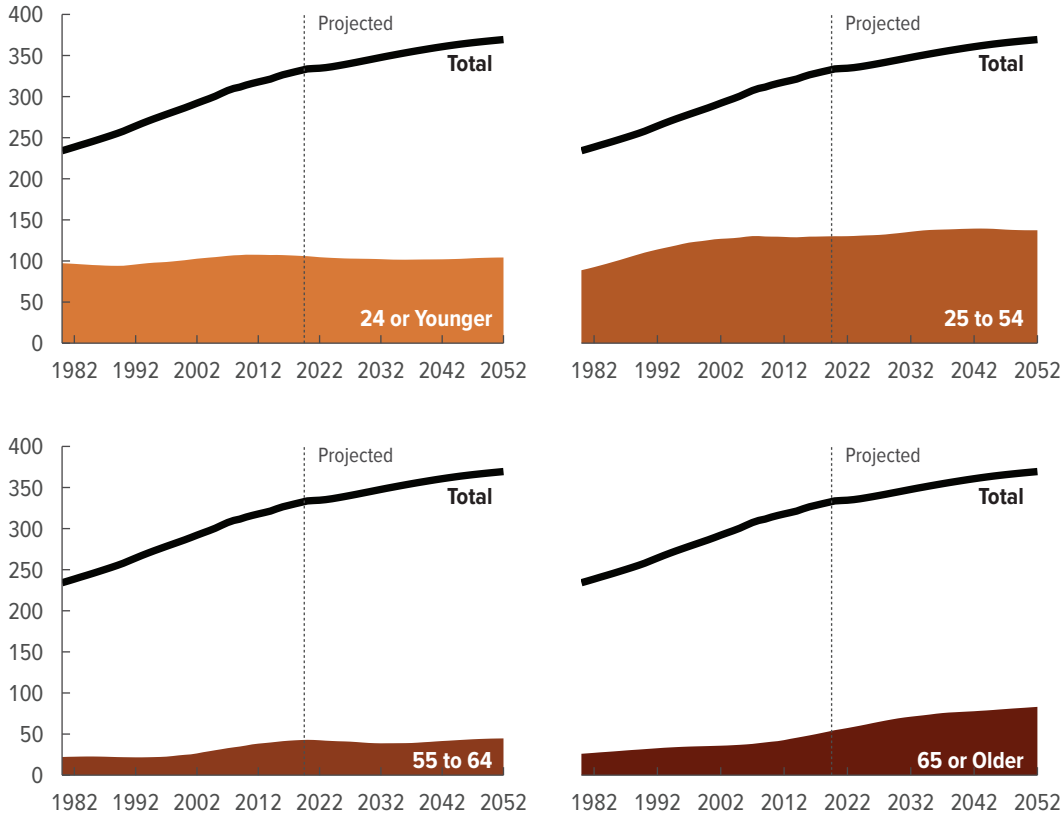


Age of the Population

The population is projected to become older, on average, by the end of the 30-year projection period. In CBO’s projections, the share of people age 65 or older rises as growth of that group outpaces that of younger age groups. The number of people ages 25 to 54 relative to the number of people age 65 or older falls from 2.3 to 1 in 2022 to 1.7 to 1 in 2052.

Population, by Age Group

Millions of People



In the agency’s projections, the number of people ages 25 to 54, which partially determines the number of people employed, grows more slowly than the number of people age 65 or older, who are less likely to work and who are generally eligible for Social Security and Medicare.

Components of Total Population Growth

Population growth is determined by births, deaths, and net immigration. In CBO’s projections, fertility rates remain low and immigration becomes an increasingly important part of overall population growth.

Fertility

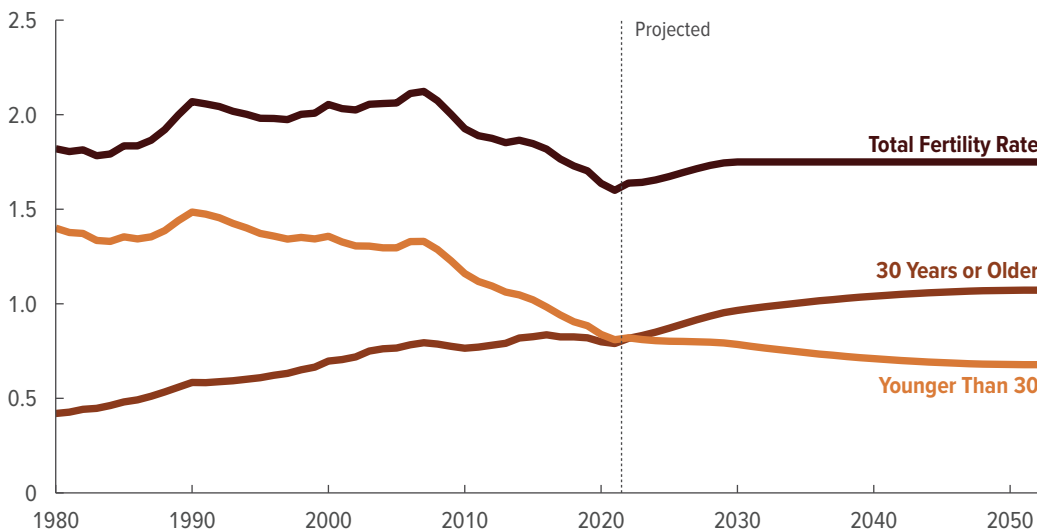
CBO projects fertility on the basis of the agency’s assessment of historical fertility trends, the effects of the coronavirus pandemic, and other factors. The total fertility rate was 2.02 children per woman, on average, in the 20 years before the 2007–2009 recession, peaking at 2.12 in 2007. After 2007, the rate generally fell, equaling 1.64 births per woman in 2020 (the most recent year for which data were available when the projections were produced). The decline was largely attributable to lower fertility rates among women age 24 or younger.¹

CBO’s projections of fertility are subject to at least two key sources of uncertainty. First, if trends in fertility, such as the rising age of mothers and the delay of childbearing, were to differ from CBO’s projections, then the agency’s projections of overall fertility rates and the age distribution of mothers would be affected. Second, significant uncertainty remains about the long-term effects of the pandemic on fertility rates.

In CBO’s projections, the total fertility rate falls to 1.60 births per woman in 2021, rises to 1.75 births per woman in 2030, and remains at that value thereafter. That rate is below the replacement rate—the fertility rate required for a generation to exactly replace itself in the absence of immigration—of about 2.1 births per woman.

Fertility Rates

Births per Woman



CBO projects fertility rates to rise for women of relatively older childbearing ages and to fall for women of relatively younger childbearing ages, consistent with the trends of delayed childbearing and the rising average age of mothers.

Mortality

Mortality rates have generally declined (and life expectancy has generally risen) in the United States since at least the early 20th century. For the most part, mortality rates have decreased more quickly for younger people than for older people. However, the rate of decline has slowed over time and mortality rates have risen in recent years, particularly among people ages 15 to 44. Those increases were primarily driven by increases in mortality from suicide and drug overdoses (particularly opioids). As a result of rising mortality rates, life expectancy at birth declined between 2015 and 2017, the first decreases in that metric since 1993.² After increasing slightly from 2018 to 2019, life expectancy fell again in 2020, largely because of increases in mortality due to COVID-19, unintentional injuries, heart disease, homicide, and diabetes.³

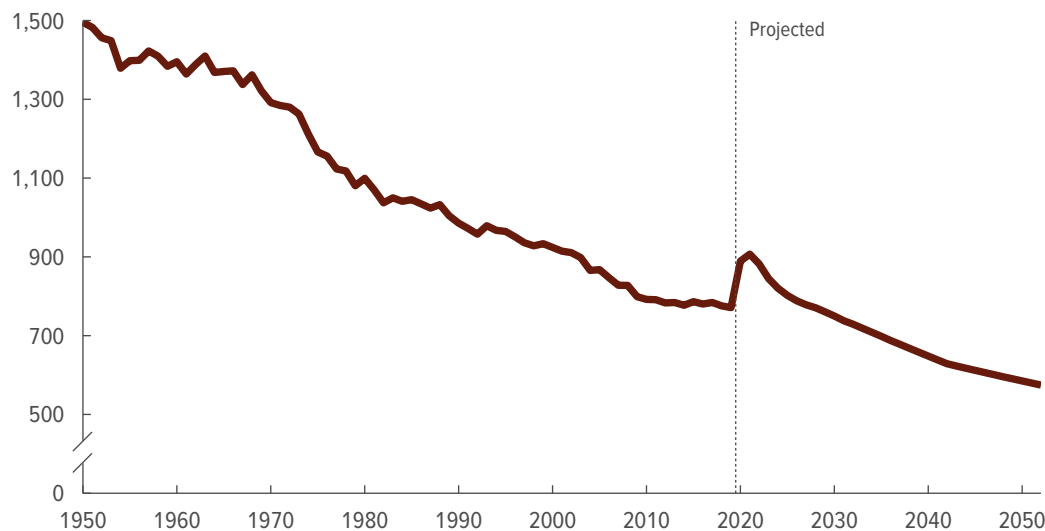
CBO projects mortality rates on the basis of its assessment of historical trends in mortality. Because of the slower rate of mortality improvement observed in recent years, CBO projects that mortality rates will decrease from 2019 to 2023 at roughly the same average rate as they did between 2009 and 2018. For the remainder of the projection period, the agency expects a return to longer-term trends in mortality improvement and a decline in mortality rates for each age group at the average pace experienced between 1950 and 2018. The agency then adjusted that initial forecast to incorporate the effects of COVID-19 on mortality rates. Through 2042, that adjustment increases mortality rates for older people, who are more likely to die from COVID-19.

The evolving effects of the pandemic on mortality are a significant source of uncertainty in CBO's projections of mortality. Developments in the total number or age composition of deaths caused by COVID-19 could have a significant impact on outcomes.

As a result of CBO's projection of mortality rates, life expectancy at birth and at age 65 are projected to increase from 77.1 years and 18.3 years in 2022 to 82.3 years and 21.7 years, respectively, in 2052.

Age-Sex Adjusted Mortality Rate

Per 100,000 People



In 2020 and 2021, estimated mortality rates increase because of additional deaths attributable to COVID-19. Those deaths occur largely among people age 65 or older. After 2021, mortality rates decline but remain higher than they would have been in the absence of COVID-19.

Net Immigration

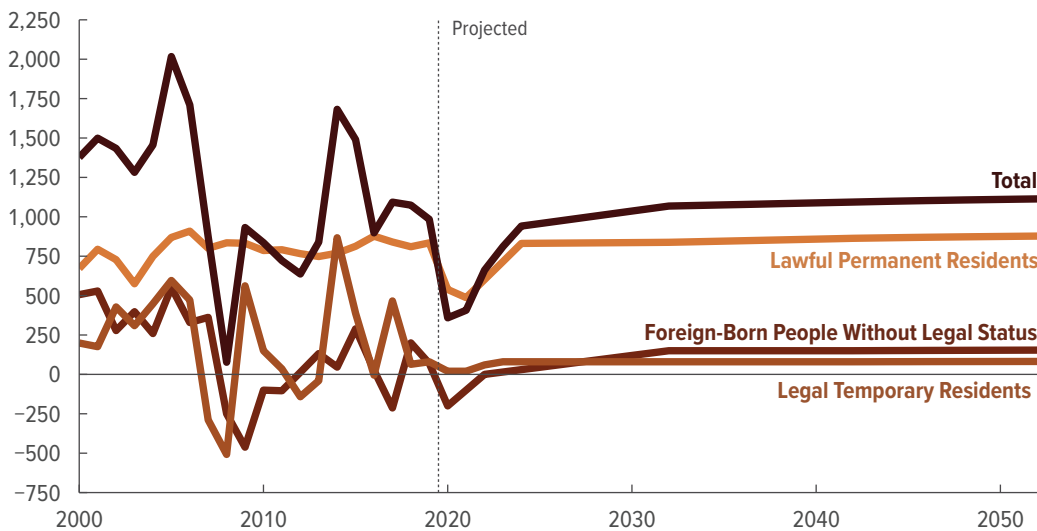
CBO develops its projections of net immigration (the number of all people who enter the United States less the number who leave in that year) using three categories: lawful permanent residents (LPRs), who are authorized to work, liable to pay income taxes, and eligible for most federal programs; legal temporary residents (LTRs), whose eligibility for federal programs is limited; and foreign-born people without legal status, who are generally not eligible for federal programs. For the first two decades of the 30-year period, CBO estimates net immigration on the basis of the agency’s economic projections and its assessment of recent trends. For the last decade, CBO projects net immigration to grow at roughly the same rate as overall population growth in the previous year, which is 0.2 percent per year, on average, from 2043 to 2052.

Net immigration averaged 1.5 million people per year between 2000 and 2006 before falling considerably during the 2007–2009 recession. Those flows did not return to their previous levels, and from 2009 to 2019, the total net flow of immigrants averaged one million people per year. Beginning in 2020, net immigration fell, in CBO’s assessment, to 350,000 people for pandemic-related reasons, including increased travel restrictions and the U.S. government’s reduced capability to process visas. Immigration is projected to increase as the pandemic’s effects subside and economic conditions improve.

Under current law, annual net immigration to the United States would rise from 950,000 people, on average, in the first decade of the projection period to 1.1 million people, on average, in the third decade, CBO projects. LPRs, which are the largest category of projected total net flows, rise from 800,000 to 870,000 people per year, on average, from the first decade to the third decade in CBO’s projections. Net flows of foreign-born people without legal status rise from 80,000 people per year, on average, in the first decade to 150,000 people per year in the third decade. CBO projects net flows of LTRs to be 80,000 people per year, on average, throughout the 30-year projection period.

Net Immigration, by Legal Status

Thousands of People



As the effects of the pandemic wane and economic conditions in the United States improve, net immigration flows are projected to rise.



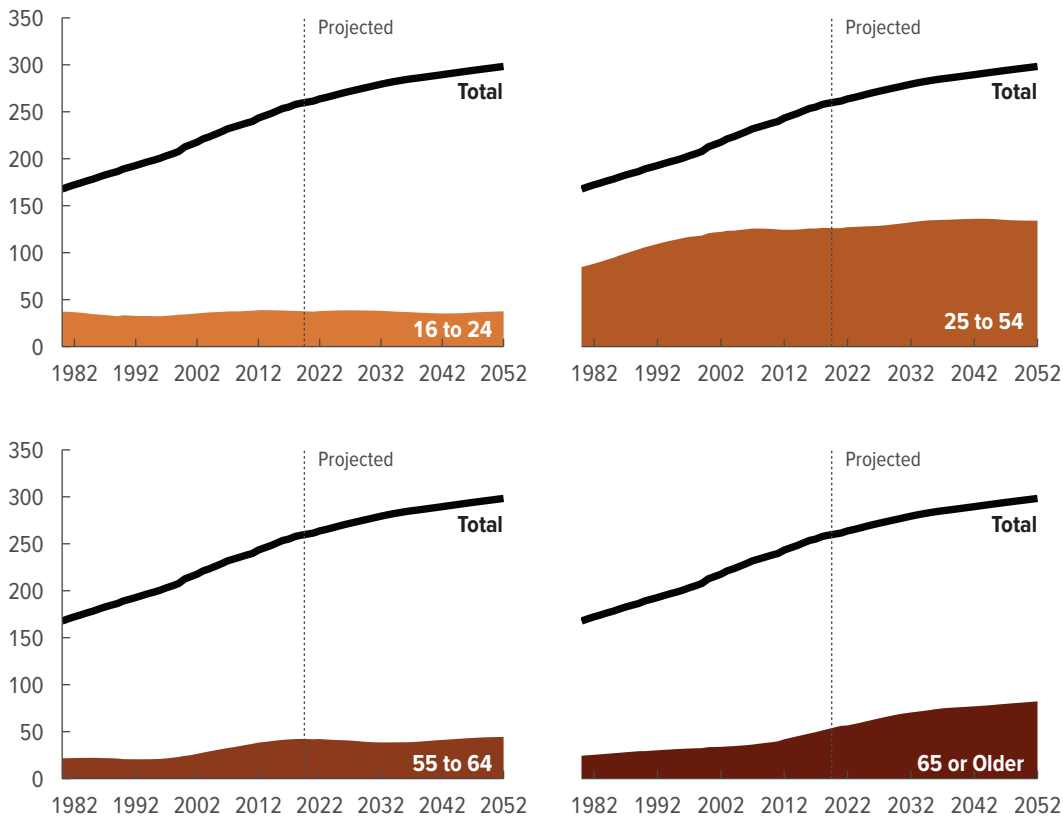
Population Used to Project the Labor Force

The agency uses the civilian noninstitutionalized population, which comprises people age 16 or older who are not inmates of institutions (such as prisons or psychiatric hospitals) or on active duty in the armed forces, to estimate the size of the labor force. CBO projects the civilian noninstitutionalized population on the basis of the historical ratio of the Social Security area population to the civilian noninstitutionalized population by sex and age group.

The civilian noninstitutionalized population rises, in CBO’s projections, from 264 million in 2022 to 298 million in 2052, at an average rate of 0.4 percent per year. The number of people age 65 or older grows at an average rate of 1.2 percent per year, which is faster than the 0.2 percent per year at which the number of prime working-age adults (ages 25 to 54) grows. On average, the number of people ages 16 to 24 remains essentially unchanged over the projection period.

Civilian Noninstitutionalized Population, by Age Group

Millions of People



People ages 25 to 54 are among those most likely to participate in the labor force. Growth in the number of people in that age group over the next 30 years is projected to be slower than the average rate experienced from 1980 to 2021. CBO projects that over the next 30 years, 72 million people, on average, will be age 65 or older, and thus generally eligible for Social Security and Medicare and less likely to work. That number is twice the average number of people in that group from 1980 to 2021.

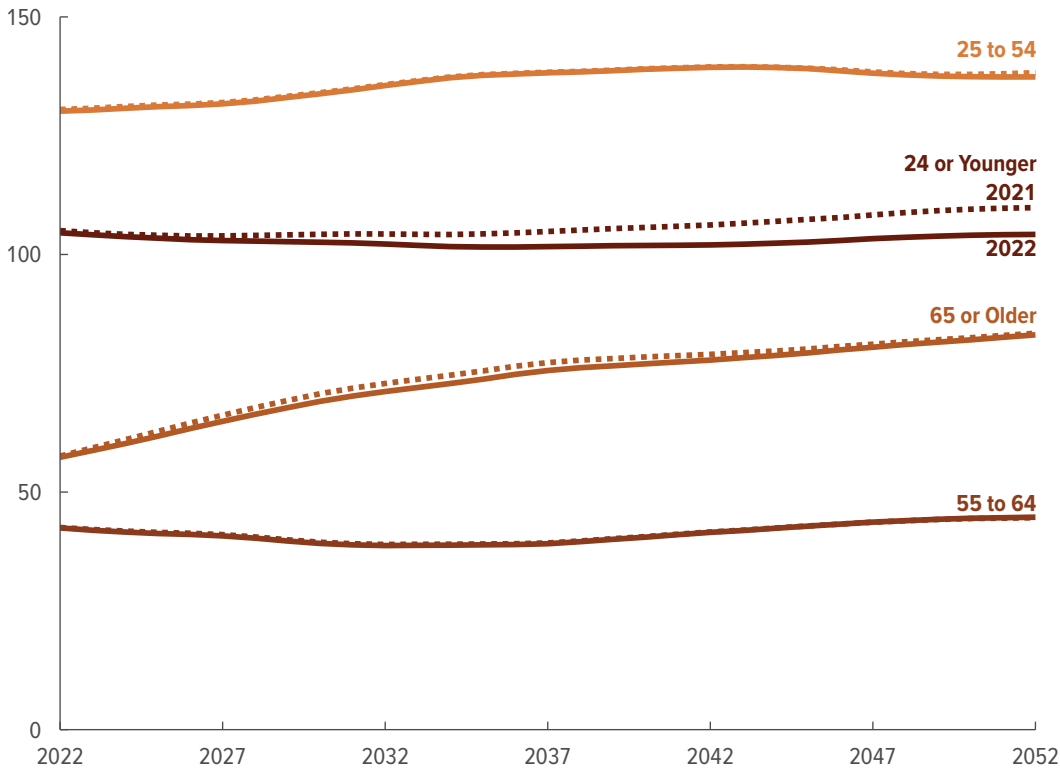
Changes to the Population Projections Since Last Year

Changes to projected rates of fertility, mortality, and net immigration mean that the population will be older, smaller, and grow more slowly, on average, than CBO projected last year. CBO now expects the population to be 1.7 percent smaller (equaling 6.5 million fewer people) in 2051 than it projected last year.

Downward revisions to the size of the population age 24 or younger—stemming from reductions to the agency’s projection of fertility rates—account for 66 percent of the overall reduction in the annual population estimates for the years from 2022 to 2051. Reductions to the number of people age 65 or older, people ages 55 to 64, and people ages 25 to 54 account for 26 percent, 3 percent, and 5 percent, respectively, of the overall reduction. Those changes are the result of lower projections of net immigration and higher projections of mortality in the near term, relative to the agency’s projections last year.

CBO’s 2021 and 2022 Population, by Age Group

Millions of People



Lower fertility rates mean that there will be fewer people age 24 or younger in each year from 2022 to 2051 compared with CBO’s projection last year. Increased mortality rates (reflecting revised estimates of the number of deaths attributable to COVID-19) mean that there will be fewer people age 65 or older in the first two decades than the agency projected last year.



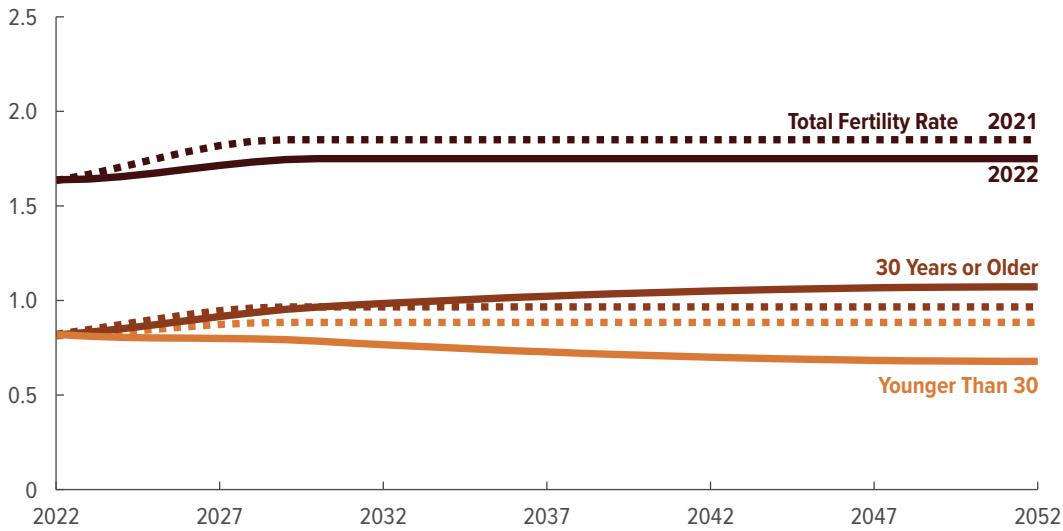
Changes to Projected Fertility Rates

CBO expects the total fertility rate after 2022 to be lower, on average, than the agency projected last year. As a result, CBO now anticipates an average of 170,000 fewer births per year from 2022 to 2031 than it did last year. That difference grows over the projection period as fewer babies born in the first decade grow into adults of childbearing age in later decades. CBO expects there to be 230,000 fewer births annually, on average, from 2043 to 2051 than it projected last year.

In its projections last year, CBO anticipated that age-specific fertility rates would flatten in the long run; but in its 2022 projections, trends in age-specific fertility rates continue to evolve over the 30-year projection period. Specifically, fertility rates for women younger than 30 are now projected to decline, and fertility rates for women older than 30 are projected to rise, maintaining the trend of delayed childbirth.

Fertility Rates in CBO's 2021 and 2022 Projections

Births per Woman



Changes to projected age-specific fertility rates result in more babies being born to relatively older mothers than CBO projected last year.



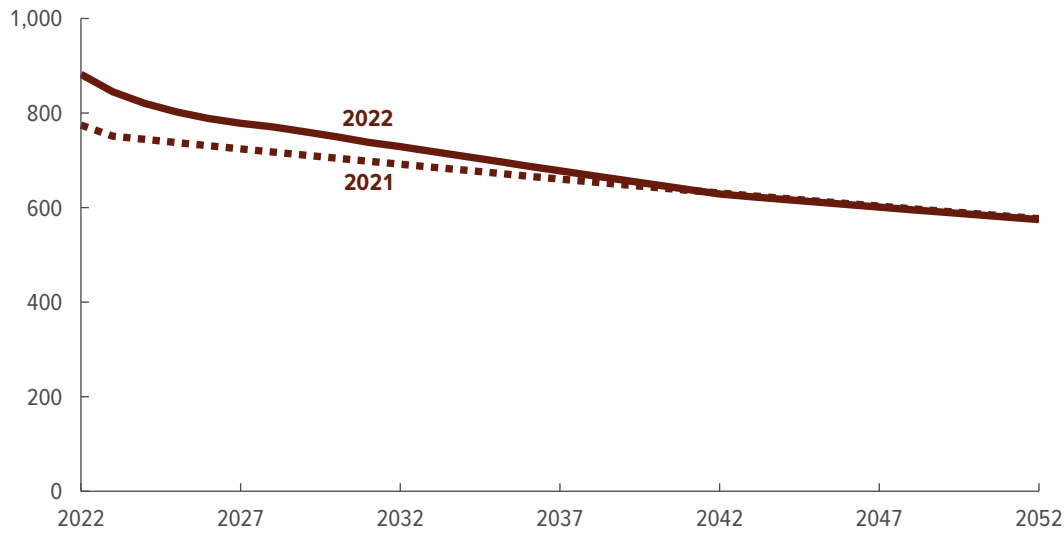
Changes to Projected Mortality Rates

CBO currently projects 140,000 (or 4.5 percent) more deaths per year, on average, from 2022 to 2031 than it projected last year. That difference stems from revisions to the projected number of deaths attributable to COVID-19. Those revisions incorporate a higher rate of mortality beginning in 2022 and a revised estimate of the number of deaths attributable to COVID-19 through 2032. Mortality rates return to previously projected levels by 2042, but the population that those rates apply to is smaller than previously projected; therefore, CBO now projects fewer deaths over the last two decades of the 2022–2051 period than it did last year.

From 2022 to 2031, life expectancies at birth and at age 65 are projected to average 78.6 and 19.2 years, respectively. Those projections are slightly lower than the agency’s estimates last year of 79.3 and 19.9 years, on average over that period, because estimates of the number of deaths related to the pandemic have been revised. In CBO’s current projections, the average life expectancies at birth and at age 65 from 2043 to 2051 are 81.8 years and 21.4 years, respectively. Those estimates are roughly the same as CBO’s projections last year (81.7 and 21.3 years, respectively).

Age-Sex Adjusted Mortality Rate in CBO’s 2021 and 2022 Projections

Per 100,000 People



Through 2042, mortality rates are higher than CBO projected last year because the agency revised its projections of deaths attributable to COVID-19.

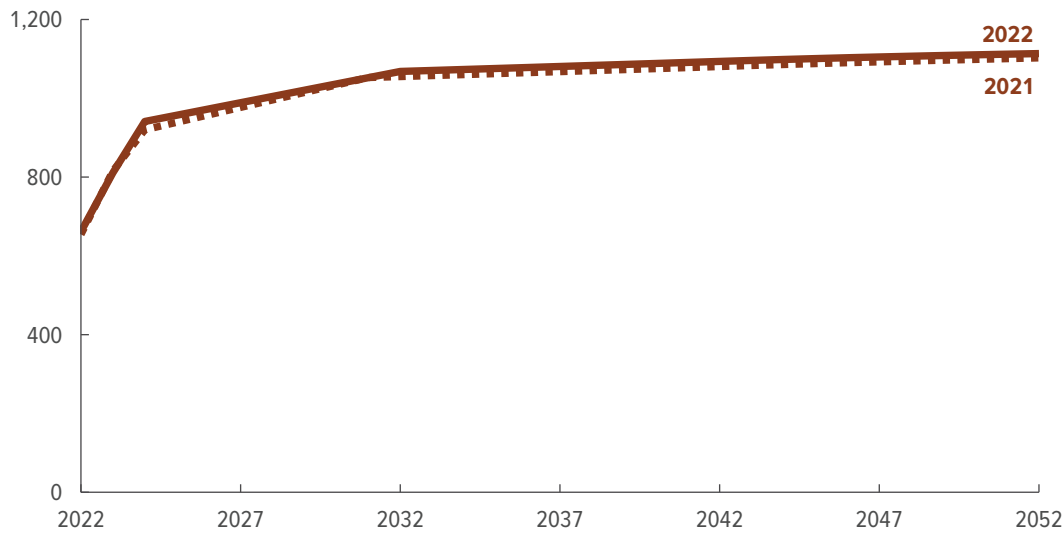


Changes to Projected Net Immigration Flows

In CBO’s assessment, pandemic-related travel restrictions and reduced visa-processing capabilities resulted in 160,000 fewer net immigrants in 2020 and 110,000 fewer net immigrants in 2021 than the agency projected last year. From 2022 to 2051, however, the annual net flow of immigrants is higher: CBO now projects 10,000 more people per year, on average, than the agency projected last year. As a result, the net immigration rate is projected to be 3.0 immigrants per 1,000 people over the 2022–2051 period, slightly higher than the 2.9 immigrants per 1,000 people that the agency projected last year.

Total Net Immigration in CBO’s 2021 and 2022 Projections

Thousands of People



CBO’s projection of net immigration over the next 30 years is slightly higher than its projection last year because of updated information on historical immigration flows and upward revisions to the agency’s projections of economic growth.



Changes to the Projections of the Population Used to Project the Labor Force Since Last Year

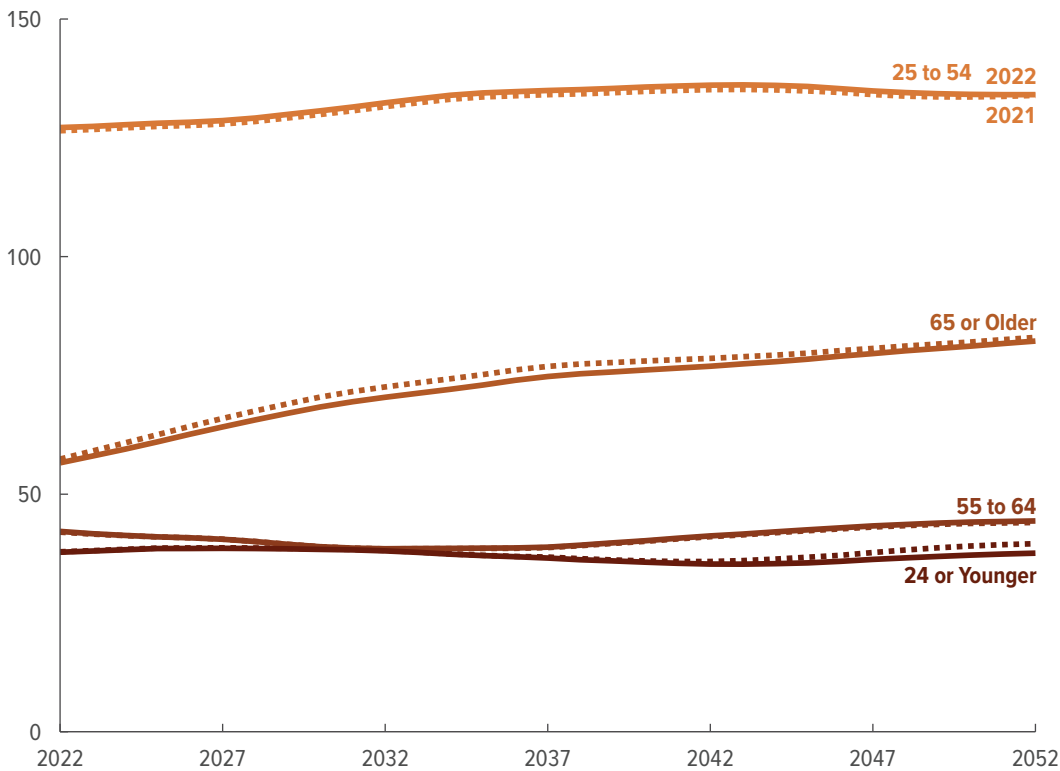
In CBO’s current projections, the civilian noninstitutionalized population (the population CBO uses to project the size of the labor force) is smaller, on average, than CBO projected last year. Specifically, CBO expects it to be 0.7 percent smaller (equaling 2.1 million fewer people) in 2051 than the agency projected last year.

Revisions to CBO’s projections of fertility and mortality reduce the size of the civilian noninstitutionalized population ages 16 to 24 by 540,000 people (or 1.4 percent) and the population age 65 or older by 1.6 million people (or 2.2 percent), on average, over the 2022–2051 period, compared with last year’s projections. CBO’s projection of the population ages 25 to 54 is 780,000 people (or 0.6 percent) higher, on average, over the 2022–2051 period than it was last year. (Changes to the size of the civilian noninstitutionalized population ages 55 to 64 were small relative to the changes for other age groups.)

Technical adjustments in response to data made available by the U.S. Census Bureau in January 2022 account for most of the difference in the population ages 25 to 54 (those most likely to be in the labor force) since last year. Changes to mortality and net immigration comprise the rest of that difference.

CBO’s 2021 and 2022 Civilian Noninstitutionalized Population, by Age Group

Millions of People



CBO projects that there will be fewer people ages 16 to 24 and age 65 or older than the agency projected last year. Those decreases are partially offset by an increase in the number of people ages 25 to 64. The changes stem largely from technical adjustments and revisions to the agency’s projected rates of fertility and mortality.



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1. See Michelle J. K. Osterman and others, “Births: Final Data for 2020,” *National Vital Statistics Reports*, vol. 70, no. 17 (National Center for Health Statistics, February 2022), <https://go.usa.gov/xud6E> (PDF, 1.2 MB).
 2. See Sherry L. Murphy and others, *Mortality in the United States, 2017*, Data Brief 328 (National Center for Health Statistics, November 2018), <http://www.cdc.gov/nchs/data/databriefs/db328-h.pdf> (506 KB).
 3. See Sherry L. Murphy, *Mortality in the United States, 2020*, Data Brief 427 (National Center for Health Statistics, December 2021), www.cdc.gov/nchs/data/databriefs/db427.pdf (402 KB).

About This Document

This volume is one of a series of reports on the state of the budget and the economy that the Congressional Budget Office issues each year. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

Daniel Crown prepared the report with guidance from Molly Dahl and Julie Topoleski. Lucy Yuan fact-checked the report. Tamara Hayford, Noah Meyerson, David Rafferty, Emily Stern, and Jeffrey Werling provided comments on an earlier draft. Joshua Goldstein (University of California, Berkeley), Melissa Kearney (University of Maryland), Ronald Lee (University of California, Berkeley), Phillip Levine (Wellesley College), and Lyman Stone (American Enterprise Institute) commented on earlier versions of the projections. The assistance of external reviewers implies no responsibility for the final product; that responsibility rests solely with CBO.

Mark Doms, Jeffrey Kling, and Robert Sunshine reviewed the report. Caitlin Verboon edited it, and R. L. Rebach created the graphics and prepared the text for publication. Daniel Crown prepared the supplemental data. The report is available at www.cbo.gov/publication/57975.

CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.



Phillip L. Swagel
Director
July 2022