The Long-Term Outlook for Social Security

Social Security, which in 2015 marks its 80th anniversary, is currently the largest single program in the federal government’s budget. The program consists of Old-Age and Survivors Insurance (OASI), which pays benefits to retired workers, to their dependents and survivors, and to some survivors of deceased workers; and Disability Insurance (DI), which makes payments to disabled workers and to their dependents until those workers reach the age of eligibility to receive full retirement benefits under OASI. Social Security currently has more than 59 million beneficiaries. The Congressional Budget Office estimates that mandatory outlays for Social Security will total $883 billion in fiscal year 2015, which will account for nearly one-quarter of all federal spending.

During the program’s first four decades, spending for Social Security increased sharply relative to the size of the economy—from less than 1 percent of gross domestic product (GDP) in the first few years to about 4 percent of GDP in the mid-1970s. That increase was caused largely by program expansions, including the creation in 1956 of the DI program. Spending rose to 4.8 percent of GDP in 1983, the year that marked the enactment of the last significant piece of legislation focused on Social Security. Between 1984 and 2007, Social Security spending fluctuated between 4.0 percent and 4.5 percent of GDP. During the 2007–2009 recession, GDP shrank, and the number of OASI and DI claimants rose unusually rapidly as the job market deteriorated. As a result, the program’s outlays grew to 4.7 percent of GDP in 2009.

CBO estimates that outlays for Social Security will be 4.9 percent of GDP in 2015.

In coming decades, more members of the baby-boom generation will reach retirement age and longer life spans will lead to longer retirements, so a much larger portion of the population will draw benefits. As a result, if the full benefits specified under current law are paid, CBO projects, Social Security spending would reach 6.2 percent of GDP in 2040 (see Figure 3-1).

How Social Security Works
Because 71 percent of its beneficiaries are retired workers or the spouses and children of those recipients, Social Security often is characterized as a retirement program. In general, workers qualify for Social Security benefits if they are age 62 or older and have paid sufficient Social Security taxes for at least 10 years.

Social Security also provides other benefits, including payments to the survivors of deceased workers—about 10 percent of beneficiaries. In addition, workers who have not reached the full retirement age and who have had to limit employment because of a physical or mental disability can qualify for DI benefits—in many cases after a shorter period of employment than is required to collect retirement benefits. Disabled workers and their spouses and children account for 18 percent of beneficiaries.

1. The $883 billion in mandatory outlays includes benefits paid ($878 billion), transfers to the Railroad Retirement Board ($5 billion), and payments to the U.S. Treasury for administrative costs (about $1 billion). CBO estimates that the Social Security Administration will spend an additional $6 billion, classified as discretionary outlays, on administration of the program. In this chapter, spending for Social Security generally refers to mandatory outlays.


**Figure 3-1.** Spending for Social Security

Percentage of Gross Domestic Product

Source: Congressional Budget Office.

Note: The extended baseline generally reflects current law, following CBO’s 10-year baseline budget projections through 2025 and then extending the baseline concept for the rest of the long-term projection period.

In dollar terms, about 70 percent of Social Security benefits are paid to retired workers and their dependents, survivors receive 13 percent, and disabled workers and their spouses and children receive 16 percent.4

**Benefits**

The benefits that retired or disabled workers initially receive are based on individual earnings histories. Those earnings and the formula used to compute initial benefits are indexed to changes in average annual earnings for the U.S. workforce as a whole (including earnings that are not subject to taxation under Social Security). In subsequent years, a cost-of-living adjustment is applied to benefits to reflect annual growth in consumer prices.

The calendar year in which a worker was born determines the age at which that worker becomes eligible to receive full retirement benefits. Workers born before 1938 were eligible to receive full retirement benefits at the age of 65. Under a schedule put in place by the Social Security Amendments of 1983, the full retirement age is increasing gradually: It reached 66 for people born between 1943 and 1954; it will gradually rise again, beginning with people born in 1955, who will turn 62 in 2017, reaching 67 for people born after 1959, who will turn 62 in 2022 or later. The early eligibility age—at which a worker qualifies for reduced retirement benefits—remains unchanged at 62.

The Social Security Administration has estimated that the initial average annual benefit was about $19,800 for a worker who retired in calendar year 2014 at the full retirement age of 66 and whose earnings (averaged over his or her career) equaled the national average.5 That amount would replace about 44 percent of that worker’s career-average earnings indexed by national average wage growth to 2008, the year in which that worker turned 60. In coming decades, replacement rates will be lower for workers with average earnings who retire at age 66 because of the scheduled increase in the full retirement age. Nevertheless, because initial benefits are based on

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4. The ways in which beneficiaries and benefits are categorized are not completely consistent—some beneficiaries receive benefits in more than one category. For instance, retired workers who also receive survivors’ benefits are classified as retired for the purpose of calculating the number of beneficiaries in each category. For the purpose of calculating the distribution of benefits, however, their benefit payments are prorated to the categories of retired worker and survivor.

beneficiaries’ previous earnings indexed to overall average wage growth and because wages are expected to grow faster than inflation over the long term, in CBO’s estimation, the real (inflation-adjusted) value of those initial benefits will rise over time.

**Taxes**

The Social Security program is funded by dedicated tax revenues from two sources. Today, roughly 96 percent comes from a payroll tax—generally, 12.4 percent of earnings that are subject to the Social Security tax. Workers and their employers each pay half; self-employed people pay the entire amount. Earnings up to a maximum annual amount—$118,500 in calendar year 2015—are subject to the payroll tax. That taxable maximum generally increases annually at the same rate as average earnings in the United States, and it has remained a nearly constant proportion of the average wage since the early 1980s. Because earnings have grown more for high earners than for others, the portion of earnings covered by Social Security on which payroll taxes are paid has fallen from 90 percent in 1983 to 81 percent in 2015. CBO expects this disparity in growth in earnings to continue for at least the next decade; the portion of earnings that is subject to the Social Security tax is projected to fall to about 79 percent by 2025 and to decline slightly thereafter.

The remaining share of tax revenues—4 percent—is collected from income taxes on Social Security benefits. Recipients who file as single people must pay taxes on their benefits if the sum of their non–Social Security income (adjusted gross income plus nontaxable interest income) and half of their benefits exceeds $25,000; the threshold for joint filers is $32,000. Under current law, those thresholds will remain the same over time—no adjustments are made to account for earnings growth or for inflation.

**Trust Funds**

Revenues from the payroll tax and the tax on benefits are credited to the two Social Security trust funds (the OASI Trust Fund and the DI Trust Fund). Social Security benefits account for 99 percent of total outlays from the trust funds; the remaining 1 percent covers administrative costs. Interest on the balances is credited to the trust funds, but because the interest transactions represent payments from one part of the government (the general fund of the U.S. Treasury) to another (the Social Security trust funds), they do not affect federal budget deficits or surpluses. The trust funds’ balances ($2.8 trillion at the end of April 2015) have accumulated over many years; during that time, tax revenues and interest received by the trust funds have exceeded the benefits paid out.

**The Outlook for Social Security Spending and Revenues**

Analysts have long projected that the cost of the Social Security program will rise significantly over the coming decades. Average benefits per recipient are expected to continue to grow because the earnings on which those benefits are based also will increase, and, other things being equal, that relationship would tend to keep total benefits roughly stable as a percentage of GDP. Moreover, as a larger share of the baby-boom generation reaches retirement age and as longer life spans lead to longer retirements, a significantly larger portion of the population will draw benefits. Those forces will combine to cause the total amount of benefits scheduled to be paid under current law to grow faster than the economy. However, total revenues for the program are anticipated to decline slightly relative to the size of the economy because most of the revenues come from the payroll tax, which has a flat rate (up to the taxable maximum, indexed to average earnings), and the proportion of earnings subject to that tax is expected to shrink. That faster growth in total benefits than in total revenues will create a shortfall in the program’s finances. The extent of the shortfall and the amounts of Social Security benefits received and taxes paid by people born in different years will depend on changes in life expectancy and other factors.

CBO’s extended baseline, which encompasses the period from 2015 through 2040, generally reflects the provisions of current law. The projections for Social Security spending and revenues are based on a detailed microsimulation model, which starts with data about individuals from a representative sample of the population and projects demographic and economic outcomes for that sample through time. For each individual in the sample, the model simulates birth, death, immigration and emigration, marital status and changes to it, fertility, labor force participation, hours worked, earnings, and payroll taxes, along with Social Security retirement, disability, and dependent benefits.6

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Demographic Changes

According to CBO’s projections, the number of people who are age 65 or older will increase by 37 percent between now and calendar year 2025 and by 76 percent between now and 2040. In comparison, CBO anticipates increases of just 4 percent and 10 percent in the population between the ages of 20 and 64 over those periods. Today, that older group is about one-quarter of the size of the younger group. The proportion is expected to increase to 33 percent by 2025 and to almost 40 percent by 2040 (see Figure 3-2). If current laws remained in place, more than 78 million people would collect benefits in 2025 and almost 100 million people would do so in 2040; currently, there are more than 59 million beneficiaries. (For more information on CBO’s demographic projections, see Appendix A.)

After declining for several years, the average age of Social Security beneficiaries will begin to increase as the baby-boom generation continues to enter retirement. Currently, almost 12 percent of retired-worker beneficiaries over the age of 64 are at least 85 years old. As life expectancy increases, Social Security beneficiaries as a group will become older; by 2040, 19 percent of retired-worker beneficiaries over the age of 64 will be at least 85 years old.

CBO expects that future increases in life expectancy will be larger for people with higher lifetime earnings, which would be consistent with the pattern of past increases. Today, a 65-year-old man whose household is in the highest quintile (the highest fifth) of lifetime earnings can be expected to live more than three years longer, CBO estimates, than a man of the same age whose household is in the lowest quintile of lifetime earnings; a 65-year-old woman in a household with high lifetime earnings can be expected to live more than a year longer than a woman of the same age in a household with low lifetime earnings. CBO projects that, on average by 2040, men in households with high lifetime earnings will live more than five years longer than men in households with low lifetime earnings, and women in households with high earnings will live almost three years longer than women in households with low earnings.

The projected changes in the life expectancy of people with high earnings relative to that of people with low earnings affect projections both of the total amount of Social Security benefits and of their distribution. Retirees with higher lifetime earnings receive larger benefits than retirees with lower earnings, so the greater increase in life expectancy of people in households with high lifetime earnings will raise total future benefits, all else being equal. Similarly, the greater increase in life expectancy of high earners will boost the ratio of lifetime Social Security benefits to lifetime Social Security taxes for high earners relative to that of low earners. 8

Projected Spending and Revenues
If current laws remained in place, spending for Social Security would rise from 4.9 percent of GDP in 2015 to 6.2 percent by 2040, CBO estimates. 9 The share of Social Security spending on disability benefits would fall from 16 percent today to 13 percent in 2040. Most disabled beneficiaries are between age 50 and the full retirement age, and, as the baby-boom generation becomes older, the share of the population in that range will decline.

Between 2015 and 2040, Social Security revenues would grow more slowly than spending, according to projections in CBO’s extended baseline. Because Social Security payroll tax receipts constitute a fixed share of taxable earnings, and taxable earnings are projected to decline as a share of GDP, payroll taxes also would decline as a share of GDP—from 4.2 percent in 2015 to 4.1 percent in 2040 (for further discussion, see Appendix A). However, both the number of Social Security recipients whose benefits are subject to taxation and their average income tax rates would increase, CBO projects. (For information about CBO’s projections of total income taxes, see Chapter 5.) As a result, income taxes on Social Security benefits that are credited to the Social Security trust funds would grow from about 0.2 percent of GDP today to 0.3 percent of GDP in 2040. By that year, total Social Security tax revenues—payroll taxes plus taxes on benefits—would equal 4.4 percent of GDP, the same as the current amount.

In 2010, for the first time since the enactment of the Social Security Amendments of 1983, annual outlays for the program exceeded annual revenues excluding interest credited to the trust funds. A gap between those amounts has persisted since then, and in 2014 outlays exceeded noninterest income by about 9 percent. CBO now projects that, as more people in the baby-boom generation retire over the next 10 years, the gap will widen between amounts credited to the trust funds and payments to beneficiaries. According to CBO’s extended baseline projections, if current laws remained unchanged, Social Security outlays would exceed the program’s revenues by almost 30 percent in 2025 and by more than 40 percent in 2040.

Financing of Social Security
A common measure of the sustainability of a program that has a trust fund and a dedicated revenue source is its estimated actuarial balance over a given period—that is, the sum of the present value of projected tax revenues and the current trust fund balance minus the sum of the present value of projected outlays and a target balance at the end of the period. 10 For Social Security, that difference is traditionally presented as a percentage of the present value of taxable payroll. Over the next 75 years, if current laws remained in place, the program’s actuarial balance would be negative.

8. The ratio of lifetime benefits to taxes in Social Security depends on annual benefits and on the number of years for which benefits are collected. Beneficiaries with low lifetime earnings receive an annual benefit that replaces a larger portion of their average lifetime earnings than beneficiaries with high lifetime earnings, but they also tend to live for fewer years and therefore to collect benefits for a shorter period. All told, lifetime Social Security benefits as a share of lifetime earnings decrease as earnings rise, but estimates of that effect vary widely and depend on whether disabled and survivors’ beneficiaries are included, how spousal benefits are accounted for, and how married couples are treated. For example, see Barry P. Bosworth and Kathleen Burke, Differential Mortality and Retirement Benefits in the Health and Retirement Study (April 2014), pp. 5–6, http://tinyurl.com/nqjlpwy.

9. CBO’s projections incorporate the assumption that Social Security will pay benefits as scheduled under current law regardless of the status of the program’s trust funds.

10. The present value of a flow of revenues or outlays over time is a single number that expresses that flow in terms of an equivalent sum received or paid at a specific time. The present value depends on a rate of interest (known as the discount rate) that is used to translate past and future cash flows into current dollars. To account for the difference between the trust fund’s current balance and the balance desired for the end of the period, the balance at the beginning is added to the projected tax revenues and an additional year of costs at the end of the period is added to projected outlays.
Table 3-1.
Financial Measures for Social Security Under CBO’s Extended Baseline

<table>
<thead>
<tr>
<th>Projection Period (Calendar years)</th>
<th>Income Rate</th>
<th>Cost Rate</th>
<th>Actuarial Balance (Difference)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As a Percentage of Taxable Payroll</td>
<td>As a Percentage of Gross Domestic Product</td>
<td></td>
</tr>
<tr>
<td>25 Years (2015 to 2039)</td>
<td>14.9</td>
<td>17.7</td>
<td>-2.8</td>
</tr>
<tr>
<td>50 Years (2015 to 2064)</td>
<td>14.2</td>
<td>17.9</td>
<td>-3.8</td>
</tr>
<tr>
<td>75 Years (2015 to 2089)</td>
<td>14.0</td>
<td>18.3</td>
<td>-4.4</td>
</tr>
<tr>
<td>25 Years (2015 to 2039)</td>
<td>5.0</td>
<td>6.0</td>
<td>-0.9</td>
</tr>
<tr>
<td>50 Years (2015 to 2064)</td>
<td>4.7</td>
<td>6.0</td>
<td>-1.3</td>
</tr>
<tr>
<td>75 Years (2015 to 2089)</td>
<td>4.6</td>
<td>6.1</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Source: Congressional Budget Office.

Notes: The extended baseline generally reflects current law, following CBO’s 10-year baseline budget projections through 2025 and then extending the baseline concept for the rest of the long-term projection period.

Over the relevant periods, the income rate is the present value of annual tax revenues plus the initial trust fund balance, and the cost rate is the present value of annual outlays plus the present value of a year’s worth of benefits as a reserve at the end of the period, each divided by the present value of gross domestic product or taxable payroll. The present value of a flow of revenues or outlays over time is a single number that expresses that flow in terms of an equivalent sum received or paid at a specific time. The present value depends on a rate of interest (known as the discount rate) that is used to translate past and future cash flows into current dollars. The actuarial balance is the difference between the income and cost rates.

To be consistent with the approach used by the Social Security trustees, the 25-, 50-, and 75-year projection periods for the financial measures reported here include 2015 and end in 2039, 2064, and 2089, respectively. See Social Security Administration, The 2014 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (July 2014), www.socialsecurity.gov/OACT/TR/2014.

shortfall would be 4.4 percent of taxable payroll, or 1.4 percent of GDP, CBO estimates (see Table 3-1). Thus, given CBO’s projections, actuarial balance could be achieved for Social Security through calendar year 2089 if payroll taxes were increased immediately and permanently by 4.4 percent of taxable payroll, if scheduled benefits were reduced by an equivalent amount, or if some combination of tax increases and spending reductions of equal present value was adopted.

The estimates of the actuarial shortfall do not account for revenues and outlays after the 75-year projection period. A policy that increased revenues or reduced outlays by the same percentage of taxable payroll in each year so as to eliminate the 75-year shortfall would not necessarily place Social Security on a permanently stable financial path. Instead, such a policy would create surpluses during the next several decades but generate deficits in later years and leave the system in a state of financial imbalance after calendar year 2089. If such a policy was adopted, the 75-year measure used in this report and commonly used in other analyses of Social Security would show no shortfall now because the measure includes the taxes paid by workers each year until 2089 but does not include the benefits that would be paid to those workers after that year.

11. To be consistent with the 75-year actuarial balance reported by the Social Security trustees, the 75-year projection period used here begins in calendar year 2015 and ends in calendar year 2089. The Social Security trustees estimated in 2014 that the program’s 75-year actuarial shortfall was 2.9 percent of taxable payroll, 1.5 percentage points less than CBO estimates. The larger shortfall projected by CBO stems largely from three differences in the projections: CBO anticipates that life expectancy will increase somewhat more rapidly, the incidence of disability will be a little higher, and in the long run interest rates will be 0.6 percentage points lower. Taken together, all of the other factors that affect the actuarial shortfall would lead CBO and the trustees to make roughly the same estimate. For more details on CBO’s projections, see Appendix A. For more details on the trustees’ projections, see Social Security Administration, The 2014 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (July 2014), www.socialsecurity.gov/OACT/TR/2014.
The measure of actuarial balance used here is known as the 75-year open-group unfunded obligation because, with no change in law, the program would continue to be open to new participants. Those new participants would pay much more in taxes over the next 75 years than they would receive in benefits during that period.

An alternative measure—sometimes called the closed-group unfunded obligation—shows the shortfall in the system that would occur if the law was changed to close Social Security to anyone currently younger than age 15, thereby encompassing future taxes paid and benefits received only by people who are now age 15 or older. (Similar assessments are made of the financial outlook for private pension plans.) CBO estimates that, when measured as a percentage of the taxable payroll, the 75-year closed-group shortfall as of 2015 is about two-thirds larger than the 75-year open-group shortfall.

Another commonly used measure of Social Security’s sustainability is the trust funds’ date of exhaustion. Under CBO’s extended baseline, the DI trust fund will be exhausted in fiscal year 2017 and the OASI trust fund will be exhausted in calendar year 2031. It is a common analytical convention, however, to consider the DI and OASI trust funds as combined, although legally they are separate. Therefore, this report focuses on the combined trust funds. In CBO’s extended baseline, the combined OASDI trust funds are projected to be exhausted in calendar year 2029.

If a trust fund’s balance declined to zero and current revenues were insufficient to cover benefits specified in law, the Social Security Administration would no longer have legal authority to pay full benefits when they were due. In the years after a trust fund’s exhaustion, annual outlays therefore could not exceed annual revenues. Under those circumstances, all receipts to the trust fund would be used and the trust fund balance would remain essentially at zero.12

Social Security benefits can be projected in two different ways: as payable benefits, which conform to the limits imposed by a trust fund’s balance, or as scheduled benefits, which reflect the benefit formulas specified in law, regardless of a trust fund’s balance. This report uses the latter approach, which is consistent with a statutory requirement that CBO, in its 10-year baseline projections, assume that funding for entitlement programs is adequate to make all payments required by law.13 In 2030, the year after the combined trust funds are expected to be exhausted, revenues are projected to equal 72 percent of scheduled outlays. Under those circumstances, payable benefits would be 28 percent less than scheduled benefits.

**Social Security Benefits and Payroll Taxes for People in Different Birth Cohorts**

People in different generations will, on average, end up paying different amounts of Social Security taxes and receiving different amounts of benefits over their lifetime.14 Under current law, taxes and benefits alike would be higher for people born later because real earnings are projected to keep growing. Continuing increases in life expectancy also would contribute to growth in lifetime benefits because later cohorts would live to receive Social Security benefits for longer periods. To compare the effects of Social Security benefits and taxes on different generations, CBO calculated lifetime Social Security benefits and payroll taxes as the present value—discounted to the year in which the beneficiary turns 65—of all such benefits that workers would receive from the program or all payroll taxes they would pay to the program.15 CBO measures the present value of benefits or taxes relative to the present value of lifetime earnings, with all values adjusted for inflation (see Figure 3-3). That analysis results in the following conclusions:

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12. Noah P. Meyerson, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report for Congress RL33514 (Congressional Research Service, August 2014). That report notes the entitlement created under the Social Security Act, cites other law that prohibits officials from making expenditures in excess of available funds, and acknowledges that the two create a potential conflict that must be resolved by the Congress or in the courts.


15. For this analysis, payroll taxes include the combined shares paid by employers and employees. Benefits are net of income taxes paid on benefits and credited to the Social Security trust funds. For discussion of the methods CBO used for these estimates, see Congressional Budget Office, *CBO’s 2014 Long-Term Projections for Social Security: Additional Information* (December 2014), Appendix B, www.cbo.gov/publication/49795.
Figure 3-3.

Mean Lifetime Scheduled Social Security Taxes and Benefits Relative to Lifetime Earnings

<table>
<thead>
<tr>
<th>Birth Cohort</th>
<th>Taxes</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940s</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>1950s</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>1960s</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>1970s</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>1980s</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>

An increase in life expectancy will mean that people born later will receive more in Social Security benefits (relative to their earnings) than those born earlier. Payroll taxes are not expected to keep pace, however, because they apply to a limited amount of earnings and that share of earnings subject to the tax is projected to decline for people born later.

Source: Congressional Budget Office.

Notes: The distribution of lifetime household earnings includes only people who live to at least age 45. Payroll taxes consist of the employer’s and employee’s shares combined. To calculate present value, amounts are adjusted for inflation (to produce constant dollars) and discounted to age 65. The present value of a flow of revenues or outlays over time is a single number that expresses that flow in terms of an equivalent sum received or paid at a specific time. The present value depends on a rate of interest (known as the discount rate) that is used to translate past and future cash flows into current dollars.

Lifetime Social Security benefits include all benefits paid to an individual except those received by young widows and children. Those benefits are excluded from this measure because there are insufficient data for years before 1984.

Scheduled benefits are benefits calculated under the Social Security Act, regardless of the balances in the program’s trust funds.

Real average lifetime scheduled benefits for each birth cohort as a percentage of lifetime earnings will generally be greater than those for the preceding cohort, and increases in life expectancy will cause that percentage to rise over time. For example, for people born in the 1950s, the mean amount of benefits received over a lifetime is projected to be about 11 percent of lifetime earnings. For people born in the 1980s, that amount will be 13 percent if they receive scheduled benefits.

Real average lifetime payroll taxes for each birth cohort relative to lifetime earnings will generally be slightly less than those for the preceding cohort because of two factors: Under current law Social Security payroll taxes are a fixed share of earnings below the taxable maximum, and the portion of earnings that is subject to Social Security tax is projected to fall. For example, for people born in the 1950s, the mean amount of payroll taxes paid over a lifetime is projected to be about 10 percent of lifetime earnings. For people born in the 1980s, that amount will be 9.5 percent.