CONGRESS OF THE UNITED STATES
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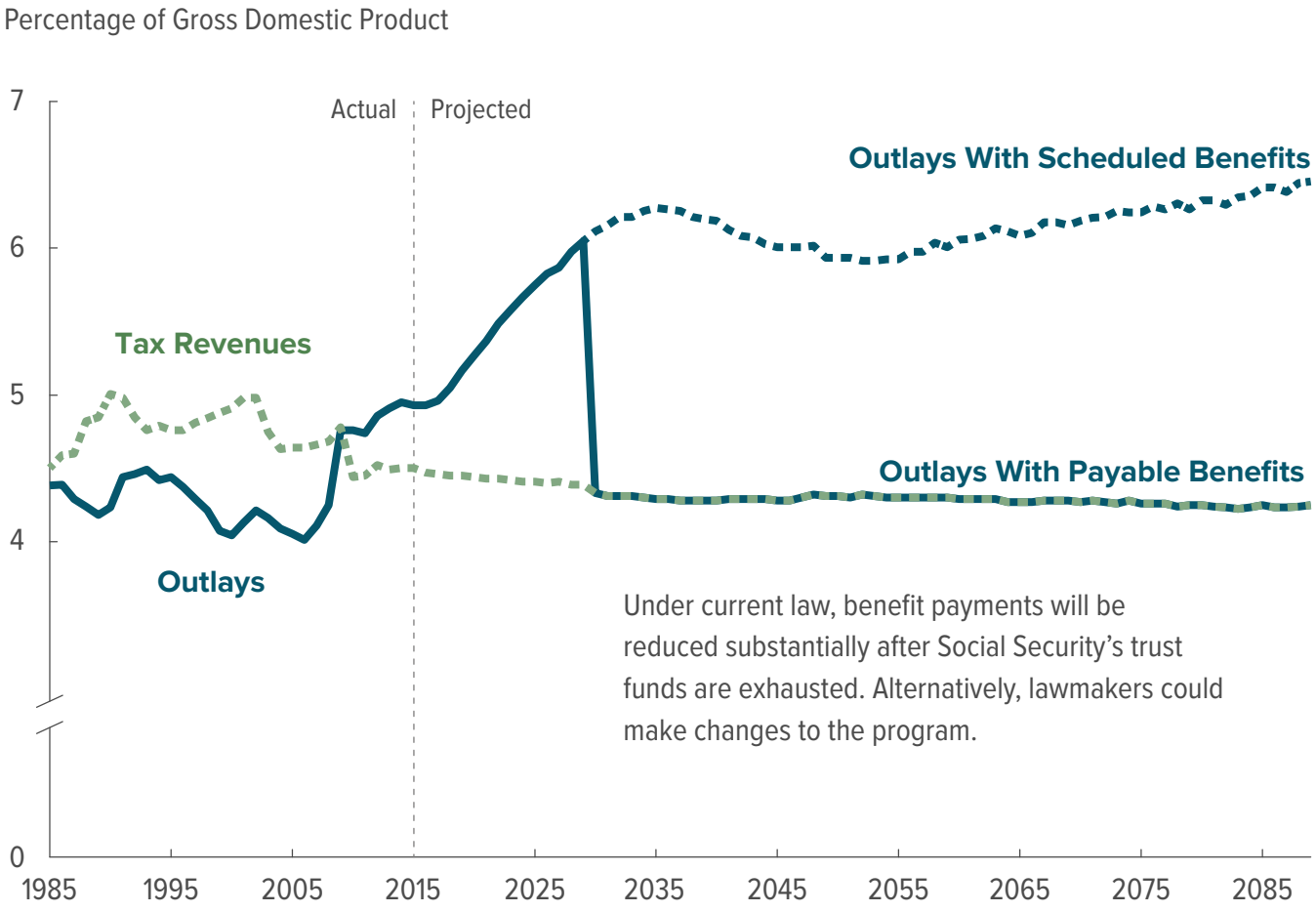
CBO

Social Security Policy Options, 2015



DECEMBER 2015

Notes

Unless otherwise indicated, the years referred to in this report are calendar years. Fiscal years run from October 1 to September 30 and are designated by the calendar year in which they end.

Numbers in the text and tables may not add up to totals because of rounding.

Supplemental data are posted with the report on CBO's website.

The analysis presented in this report relies on projections published in *The 2015 Long-Term Budget Outlook* (Congressional Budget Office, June 2015, www.cbo.gov/publication/50250). Where appropriate, CBO has modified those projections to account for a shift of a 0.57 percentage-point share of the payroll tax from the Old-Age and Survivors Insurance Trust Fund to the Disability Insurance Trust Fund for calendar years 2016 through 2018. That change results from a provision of the Bipartisan Budget Act of 2015 (Public Law 114-74; www.congress.gov/bill/114th-congress/house-bill/1314), which was enacted on November 2, 2015. This report does not account for the effects of several other small changes to Social Security under the new law. For pertinent estimates, see Congressional Budget Office, cost estimate for H.R. 1314, the Bipartisan Budget Act of 2015 (October 28, 2015), www.cbo.gov/publication/50938.

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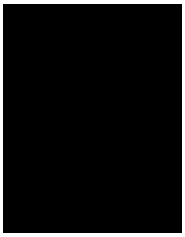


Social Security Policy Options, 2015

Summary

Social Security, which marked its 80th anniversary in 2015, is the largest single program in the federal government's budget. The program has two parts: 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 at which they are eligible to receive full retired-worker benefits under OASI. Social Security currently has about 60 million beneficiaries. Outlays for Social Security totaled $888 billion in fiscal year 2015, accounting for nearly one-quarter of all federal spending. Although Social Security is part of the overall federal budget, its funding mechanism of dedicated revenues sets it apart from many other government programs. Benefits for OASI and DI alike are financed from trust funds (often identified collectively as the combined, or OASDI, trust funds), which are credited with tax revenues, mainly from payroll taxes, and interest on the funds' balances.[1] As long as a trust fund's balance is sufficient to cover required payments, benefits can be paid without the need for any legislative action.

What Are the Prospects for Social Security's Finances?

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 combined trust funds. A gap between those amounts has persisted since then, and in fiscal year 2015 outlays exceeded tax revenues by almost 9 percent. As more people in the baby-boom generation retire over the next 10 years, the Congressional Budget Office projects, the gap will widen between amounts credited to the trust funds and payments to beneficiaries. If current laws governing Social Security taxes and benefits stay generally the same and if all benefits are paid in full—an assumption that underlies CBO's extended baseline projections—outlays for the Social Security program will exceed noninterest revenues by almost 30 percent in 2025 and by more than 40 percent in 2040.

But the trust funds will not be able to sustain such spending. Under those circumstances, the DI trust fund will be exhausted in fiscal year 2021, the OASI trust fund will be exhausted in calendar year 2030, and, combined, the OASDI trust funds will be exhausted in calendar year 2029, CBO estimates.[2] 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 be permitted to pay full benefits when they were due.[3] In the years after a trust fund's exhaustion, therefore, annual outlays 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.

1. Spending for Social Security benefits and receipts from Social Security taxes are part of the unified federal budget but are categorized as off-budget for certain budget enforcement procedures.

2. CBO previously had projected that the DI trust fund would be exhausted in fiscal year 2017 and that the OASI trust fund would be exhausted in calendar year 2031. It changed those projections with the November 2, 2015, enactment of the Bipartisan Budget Act of 2015. The new law revised the allocation of the payroll tax between the two programs, granting a larger share to the DI trust fund for calendar years 2016 through 2018 and reducing by an equal amount the share allocated to the OASI trust fund for those years. Because total tax revenues would remain the same, CBO does not project a change from calendar year 2029 for the exhaustion of the combined OASDI trust funds.

3. Noah P. Meyerson, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report for Congress RL33514 (Congressional Research Service, August 28, 2014), available from U.S. House of Representatives, Committee on Ways and Means, *2014 Green Book,* Chapter 1: Social Security, "Social Security Congressional Research Service Reports" (accessed December 9, 2015), http://go.usa.gov/cCXcG.

What Effects Might Certain Changes to Social Security Have Over the Long Term?

This report considers 36 policy options that are among those commonly proposed by policymakers and analysts, divided into five groups according to the elements of the Social Security program that they would modify:

- The taxation of earnings,
- The benefit formula,
- The full retirement age (FRA),
- Cost-of-living adjustments (COLAs), and
- Benefits for specific groups.

Many analysts and policymakers have suggested that Social Security could gain long-term financial stability if the gap between the system's revenues and its outlays could be reduced through an increase in tax revenues, a reduction in benefits, or some combination of those two approaches. Although most of the options in this report would improve Social Security's long-term finances, only a few would significantly postpone the combined trust funds' exhaustion date because most would be phased in slowly.[4] Some policymakers also advocate increasing benefit amounts, especially for people with low lifetime earnings, and a few options are designed to achieve that goal.

The effects of an option on the Social Security system's finances are presented first, followed by a discussion of the distribution of those effects among people in various birth cohorts and according to lifetime household earnings.

CBO did not analyze the macroeconomic feedback effects of the options on the federal debt, transfer payments, or payroll taxes because doing so would have involved analyses that were outside the scope of this report.

By itself, no individual option presented here could create long-term stability for the Social Security program (see Figure 1). Some options would affect all workers or beneficiaries similarly; others would have widely disparate effects, depending on a beneficiary's year of birth or lifetime earnings. If the goal was to achieve long-term solvency, it would be necessary to combine several options and possibly to change some of the details of various options. The combined effects of policy changes are not always additive, however, and the effects of modifying the options would not necessarily be proportional to the results presented in this report.

The Social Security Program

As the largest single program in the federal budget, Social Security currently pays benefits to about 60 million recipients. Outlays for Social Security totaled $888 billion in fiscal year 2015, accounting for nearly one-quarter of all federal spending.[5]

During the program's first four decades, Social Security spending increased 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 2008, Social Security spending averaged 4.2 percent of GDP. During the 2007–2009 recession, GDP shrank, and the number of OASI and DI claimants rose as the job market deteriorated. As a result, outlays jumped from 4.1 percent of GDP in 2008 to 4.7 percent in 2009. Outlays for Social Security in 2015 amounted to 4.9 percent of GDP.

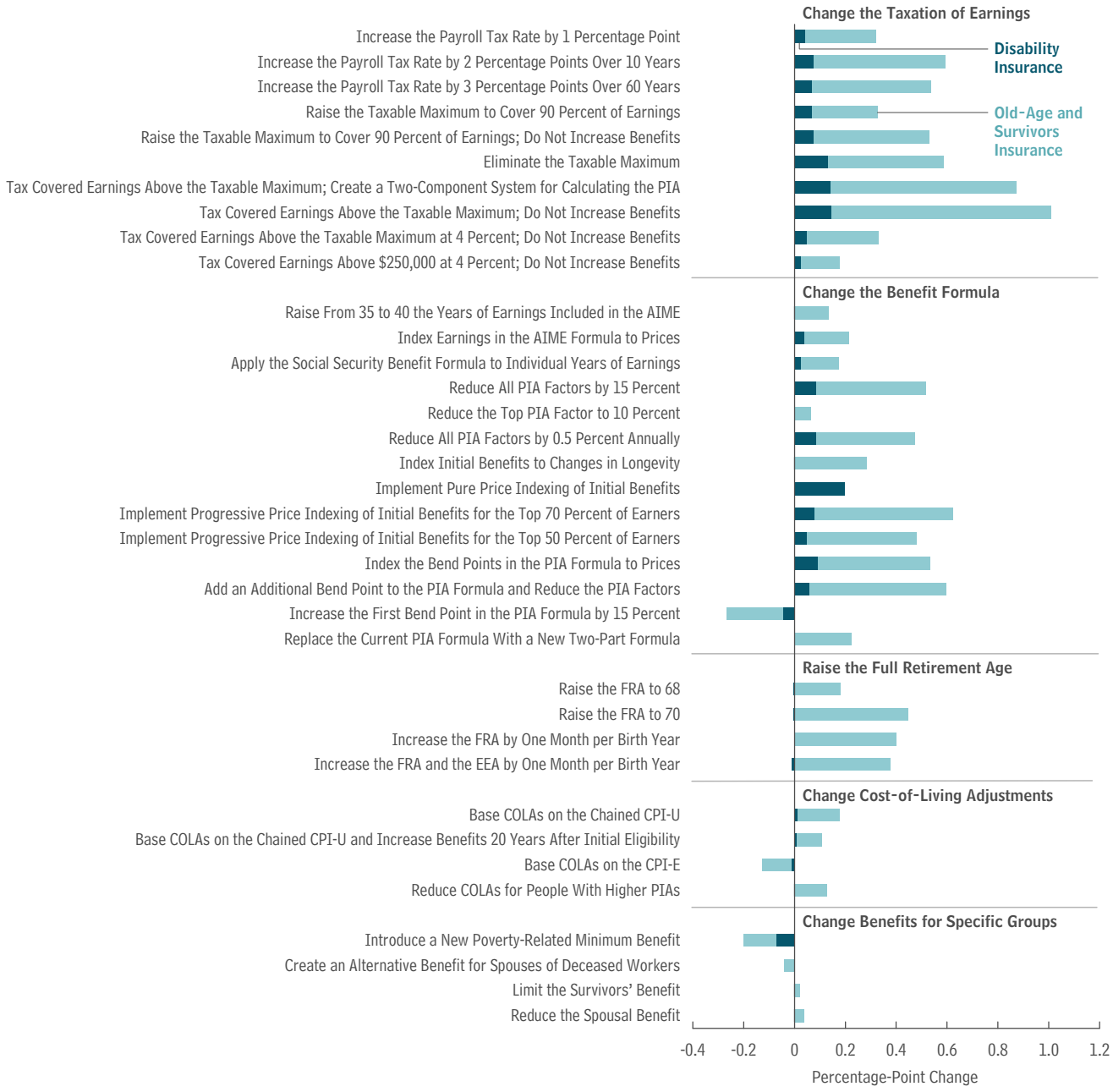
4. CBO published a similar compilation several years ago. See Congressional Budget Office, *Social Security Policy Options* (July 2010), www.cbo.gov/publication/21547. Versions of some options presented in the current publication also appeared in Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), www.cbo.gov/budget-options/2013/44687. For a summary of options concerning trust fund solvency, program benefits, and program finances, see Social Security Administration, Actuarial Publications, Individual Changes Modifying Social Security, *Summary of Provisions That Would Change the Social Security Program* (October 2014), www.ssa.gov/oact/solvency/provisions_tr2014. For other analyses of the distributional effects of various options, see Social Security Administration, Office of Retirement Policy, Policy Option Projections, Summary Comparison, www.ssa.gov/retirementpolicy/projections/summary.html (accessed December 9, 2015).

5. The $888 billion in outlays includes benefits paid ($877 billion), transfers to the Railroad Retirement Board ($5 billion), and administrative costs of the program ($6 billion). In this report, spending for Social Security generally refers to outlays from the Social Security trust funds, which includes all of those costs.

Figure 1.

Effects of the Policy Options on the 75-Year Actuarial Balance of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds

Percentage of Gross Domestic Product



Source: Congressional Budget Office.

Notes: The actuarial balance is the difference between the income rate and the cost rate. The income rate is the present value of annual tax revenues over the 75-year period plus the initial balance in the trust fund for that period, each of which is divided by the present value of gross domestic product or taxable payroll. The cost rate is the present value of annual outlays for the period plus the present value of a year's worth of benefits as a reserve at the end of the 75 years, each of which is divided by the present value of gross domestic product or taxable payroll. The 75-year actuarial balance is -1.4 percent of gross domestic product.

AIME = average indexed monthly earnings; COLA = cost-of-living adjustment; CPI = consumer price index; CPI-E = CPI for elderly consumers; chained CPI-U = chained CPI for all urban consumers; EEA = early eligibility age; FRA = full retirement age; PIA = primary insurance amount.

Social Security is funded by dedicated tax revenues from two sources: payroll taxes and income taxes on Social Security benefits. In fiscal year 2015, those revenues totaled 4.5 percent of GDP. Although Social Security is part of the overall federal budget, its mechanism of funding via dedicated revenues sets it apart from many other government programs. Revenues are credited to the two Social Security trust funds, one each for OASI and DI. And although the two funds are legally separate, in this report, CBO follows the common analytical convention of considering them as combined.

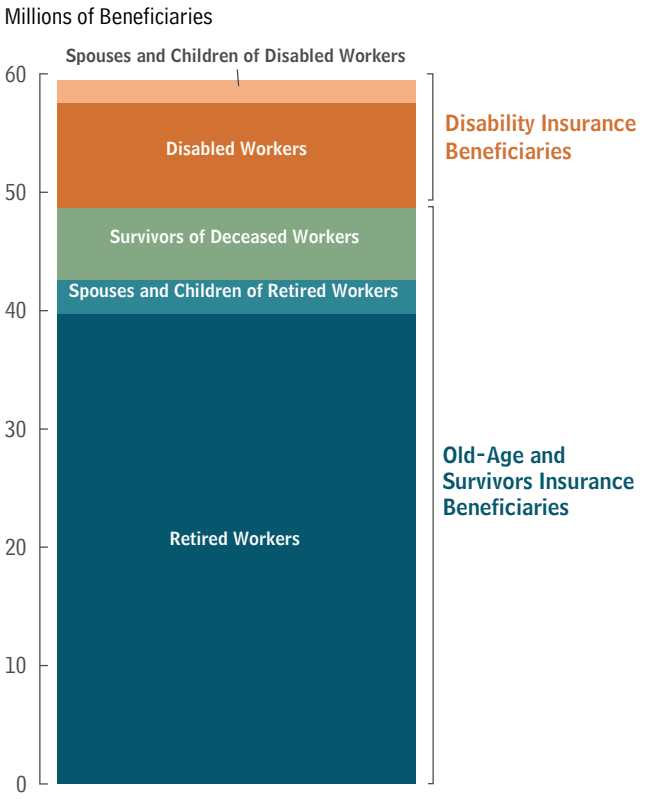
Benefits

Because 72 percent (or 43 million) 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, people qualify for retired-worker benefits if they are age 62 or older and have paid sufficient Social Security taxes for at least 10 years.[6] Social Security also provides benefits to the survivors of deceased workers—about 10 percent (or 6 million) of all beneficiaries. In addition, workers who have not reached the full retirement age and who are judged unable to perform "substantial" work 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 retired-worker benefits.[7] Disabled workers and their spouses and children account for 18 percent (or 11 million) of all beneficiaries (see Figure 2).

In fiscal year 2015, about 70 percent (or $618 billion) of Social Security benefits was paid to retired workers and their dependents, survivors received 13 percent (or $116 billion), and disabled workers and their spouses and children received 16 percent (or $143 billion).[8]

Figure 2.

Number of Social Security Beneficiaries by Type of Benefits Received, 2015



Source: Congressional Budget Office based on Social Security Administration data for October 2015.

The benefits that retired or disabled workers initially receive are based on individual earnings histories. A progressive formula is used to translate earnings into benefits: The replacement rate—the ratio of benefit payments received to a worker's past earnings—is higher for people with lower average earnings than for people with higher earnings. Initial benefits are adjusted on the basis of the age at which a recipient chooses to start claiming them; the longer people wait (up to age 70), the higher the benefits will be. In years after initial eligibility, a COLA is applied to benefits to reflect annual growth in consumer prices.

6. To be eligible for retired-worker benefits, a person generally must have worked for a minimum of 10 years (40 quarters of coverage, or 40 credits) under the program. The required number of quarters of coverage to be eligible for retired-worker benefits is reduced for people who receive disability benefits between the ages of 21 and 62. A worker can amass up to 4 credits per year on the basis of wages earned for covered employment. In 2015, the minimum amount for a credit is $1,220 in wages, so any worker who earns at least $4,880 will receive four credits for the year.

7. See Congressional Budget Office, *Policy Options for the Social Security Disability Insurance Program* (July 2012), www.cbo.gov/publication/43421, and *Social Security Disability Insurance: Participation Trends and Their Fiscal Implications* (July 2010), www.cbo.gov/publication/21638.

8. 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.

For the calculation of initial benefits, people's earnings and the formula used to compute those benefits are adjusted, or indexed, to growth in the average amount of total wages in the United States in a year, including earnings from employment that is not covered by Social Security. Because wages are expected to grow faster than inflation over the long term, CBO projects that the real (inflation-adjusted) value of those initial benefits will rise over time.

Social Security is an important source of income for the nation's elderly. In 2012, more than 85 percent of people age 65 or older received benefits, and those payments typically were the recipients' largest source of income. In that year, 52 percent of married recipients and 74 percent of nonmarried recipients age 65 or older received at least 50 percent of their total income in Social Security benefits. Those benefits made up at least 90 percent of the income for 22 percent of married recipients and for 47 percent of nonmarried recipients.[9] CBO estimates that if every worker born in the 1940s claimed benefits at age 65, the mean initial benefit among those workers (who are now between the ages of 66 and 75) would be about $17,000.[10] That amount would replace 50 percent of such workers' average annual lifetime earnings indexed for changes in wages over time, including earnings above the taxable maximum.

9. See Social Security Administration, *Income of the Aged Chartbook, 2012*, SSA Publication 13-11727 (April 2014), p. 9, http://go.usa.gov/3quhh. The data on Social Security benefits as a share of total income presented in that publication are derived from the Census Bureau's March 2012 Supplement to the Current Population Survey, or CPS. The survey data do not include such sources of income as lump-sum withdrawals from retirement accounts or capital gains. Because those income sources are excluded, some observers assert that the CPS understates the income of retired people. See Billie Jean Mille and Sylvester J. Schieber, "Contribution of Pension and Retirement Savings to Retirement Income Security: More Than Meets the Eye," *Journal of Retirement*, vol. 1, no. 3 (Winter 2014), pp. 14–29, www.iijournals.com/toc/jor/1/3. Others assert that the CPS does in fact provide an accurate measure of income for most households in the low or middle part of the income distribution because those households tend to hold few if any assets in retirement accounts. However, those observers acknowledge, the exclusion of income from retirement accounts is probably what causes the CPS to understate total income for the top 20 percent of households in the income distribution. See Alicia H. Munnell and Anqi Chen, *Do Census Data Understate Retirement Income?* Issue Brief 14-19 (Center for Retirement Research, Boston College, December 2014), http://tinyurl.com/pchqusn.

10. See Congressional Budget Office, *CBO's 2015 Long-Term Projections for Social Security: Additional Information* (December 2015), Exhibit 9, www.cbo.gov/publication/51047.

Funding

Social Security is funded by dedicated tax revenues from two sources. Today, roughly 96 percent of that tax revenue comes from a payroll tax—generally, 12.4 percent of people's earnings that are subject to the Social Security tax. Workers and their employers each pay half; self-employed people pay the entire amount.[11] Earnings up to a maximum annual amount—now $118,500—are subject to the payroll tax. That taxable maximum generally increases each year 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. In fiscal year 2015, workers and their employers paid $786 billion, or 4.4 percent of GDP, in payroll taxes dedicated to Social Security.[12]

The remaining share of tax revenues for the program—about 4 percent—is collected from income taxes on Social Security benefits. Recipients who file individual income tax returns 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.[13] Under current law, those thresholds remain the same over time—no adjustments are made to account for earnings growth or for inflation. In fiscal year 2015, beneficiaries paid $31 billion, or 0.2 percent of GDP, in income taxes on their Social Security benefits to the OASI and DI trust funds. An additional $20 billion of income taxes on Social Security benefits was credited to the Medicare Hospital Insurance Trust Fund.

11. The worker's portion of the payroll tax was reduced by 2 percentage points for 2011 and 2012 (as was the tax paid by self-employed workers), and the reduction in tax revenues was made up by reimbursements from the Treasury's general fund. In this report, Social Security tax revenues include those reimbursements.

12. That $786 billion includes $16 billion that the government contributes as the employer's share of the payroll tax for federal workers. Those funds are recorded as offsetting receipts, rather than as revenues, because they result from intragovernmental transfers.

13. For the purpose of determining federal income taxes on benefits, the Social Security Administration classifies a beneficiary as an "individual" if that person's federal income tax-filing status is single, head of household, or married filing separately (if he or she did not live with a spouse at any time during the year) or if the beneficiary, if widowed, is the parent of a dependent child.

Trust Funds

Social Security benefits and the program's administrative costs are paid from the program's two trust funds; over the past 25 years, administrative expenses have accounted for no more than 1 percent of total program outlays. The trust funds' balances (a combined total of $2.8 trillion at the end of October 2015) have accumulated over many years. During that time, tax revenues and interest received by the trust funds have exceeded the benefits paid out.

Because the interest credited on the assets of the trust funds represents a payment from one part of the government (the general fund of the Treasury) to another (the Social Security trust funds), it does not affect federal budget deficits or surpluses. In this report, Social Security revenues are generally reported as payroll taxes plus income taxes paid on benefits. However, the interest payments are included for projections of the trust funds' balances and exhaustion dates.

In a given year, the receipts credited to a trust fund, along with any interest credited on previous balances, minus spending for benefits and administrative costs constitute its surplus or deficit. At a given time, the balance in a program's trust fund represents the cumulative amount by which surpluses have exceeded deficits. That balance is a measure of the amounts that the government is permitted to spend for certain purposes under current law.

Ordinarily, when a trust fund receives cash that is not needed immediately to pay benefits or cover other expenses, the Treasury issues securities to the trust fund equal in value to the amount of the extra cash and then uses that cash to reduce the amount of new federal borrowing that is necessary to finance the governmentwide deficit.[14] Thus, in the absence of changes to other tax and spending policies, the government borrows less from the public than it would without that extra net income. The reverse happens when revenues for a trust fund program fall short of expenses; the government redeems the securities for cash (from other revenues or by borrowing from the public), which it then uses to pay benefits.

14. Those securities are intragovernmental debt instruments issued by the Treasury and are the most widely held securities in federal trust funds, including the Social Security trust funds. The securities are an asset for the trust funds but a liability for the rest of the government.

Social Security Projections

For some time, the Social Security Administration and CBO have projected that the program's cost will rise significantly over the coming decades.[15] Average benefits per recipient are expected to continue to increase because the earnings that are the basis of those benefits will increase. Other things being equal, that relationship would tend to keep total benefits roughly stable as a percentage of GDP. In addition, a significantly larger portion of the population will begin to draw benefits because more of the baby-boom generation will reach retirement age. Their longer life spans will result in those beneficiaries' receiving payments for more years than was the case in the past, thus increasing the total amount of benefits the average retiree receives over a lifetime.[16] All of those forces will combine to cause the growth in benefits as scheduled under current law to outpace the growth in the economy overall.

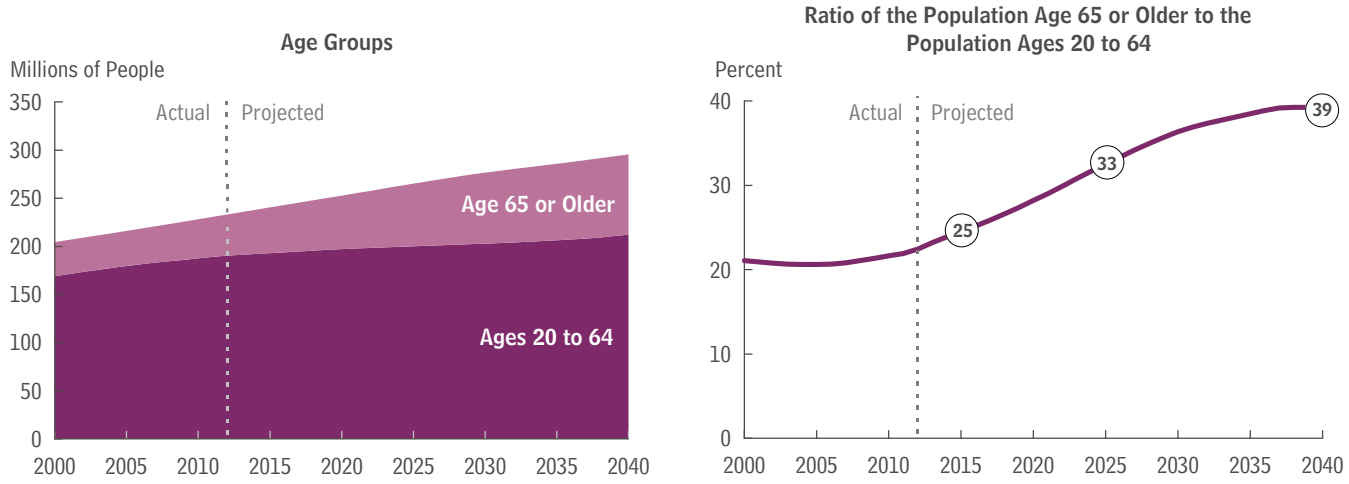
15. For details on the Social Security trustees' projections, see Social Security Administration, *The 2015 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (July 2015), http://socialsecurity.gov/OACT/TR/2015. For details on CBO's projections for Social Security, see Congressional Budget Office, *CBO's 2015 Long-Term Projections for Social Security: Additional Information* (December 2015), www.cbo.gov/publication/51047, *The 2015 Long-Term Budget Outlook* (June 2015), www.cbo.gov/publication/50250, and *Updated Budget Projections: 2015 to 2025* (March 2015), www.cbo.gov/publication/49973.

    For this analysis, CBO used projections that it published in June 2015, modified in some places to account for a shift of a 0.57 percentage-point share of the payroll tax from the Old-Age and Survivors Insurance Trust Fund to the Disability Insurance Trust Fund for calendar years 2016 through 2018. That change stems from a provision of the Bipartisan Budget Act of 2015 (www.congress.gov/bill/114th-congress/house-bill/1314). This report does not account for the effects of several other small changes to Social Security under the new law. For pertinent estimates, see Congressional Budget Office, cost estimate for H.R. 1314, the Bipartisan Budget Act of 2015 (October 28, 2015), www.cbo.gov/publication/50938.

16. Expectations regarding the baby-boom generation's financial well-being in retirement are summarized in Barbara A. Butrica, Karen E. Smith, and Howard M. Iams, "This Is Not Your Parents' Retirement: Comparing Retirement Income Across Generations," *Social Security Bulletin*, vol. 72, no. 1 (February 2012), pp. 37–58, http://go.usa.gov/3qJ8k; Congressional Budget Office, "Will the Demand for Assets Fall When the Baby Boomers Retire?" *CBO Blog* (September 8, 2009), www.cbo.gov/publication/24960; and Irena Dushi and Howard M. Iams, "Cohort Differences in Wealth and Pension Participation of Near-Retirees," *Social Security Bulletin*, vol. 68, no. 3 (December 2008), pp. 45–65, http://go.usa.gov/3qJ8G.

Figure 3.

Population, by Age Group



Source: Congressional Budget Office.

Total revenues for the program, however, are anticipated to decline slightly relative to the size of the economy because most of the program's receipts come from the payroll tax—a flat-rate assessment (up to the taxable maximum, which is indexed to average earnings)—and because the proportion of earnings subject to the payroll tax is expected to shrink. The extent of the resulting shortfall in the program's finances will depend on several economic and demographic factors. The sustainability of the Social Security system can be assessed using a variety of measures to identify the magnitude of the changes that would be necessary to improve the program's fiscal outlook.

An Aging Population

According to CBO's projections, the number of people who are age 65 or older will increase by 37 percent over the next decade and by 76 percent over the next 25 years. CBO also anticipates that the size of the population between the ages of 20 and 64 will increase by just 4 percent and 10 percent over the same two periods. Today, that older group is about 25 percent of the size of the younger group. That proportion is expected to increase to 33 percent by 2025 and to reach almost 40 percent by 2040 (see Figure 3). 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, Social Security has about 60 million beneficiaries.

Because the average life span in the United States has lengthened considerably since the advent of Social Security, CBO anticipates that people who turn 65 today will collect benefits for significantly longer periods than retirees have in the past. In 1940, for example, life expectancy at age 65 was 11.9 years for men and 13.4 years for women.[17] CBO estimates that life expectancy for 65-year-olds has increased by more than 6 years, to 18.2 years for men and 20.7 years for women today, and it projects that those figures will increase to 20.6 years and 23.1 years by 2040. Therefore, Social Security's current-law commitment to provide people with a specific monthly benefit for the rest of their lives will be more costly if it is made to people who will turn 65 in 2040 than it is today.

Increases in longevity will cause some people to work longer than they would otherwise, CBO projects. In the coming decades, the average person is expected to work for an additional three months for each additional year of life expectancy, thus boosting revenues from payroll taxes. However, those additional revenues would not be enough to compensate for higher benefits, according to CBO's analysis.

CBO expects that future increases in life expectancy will be greater for people with higher lifetime earnings than for people with lower earnings, which would be consistent

17. The measure for life span, life expectancy, identifies the number of additional years a person is expected to live after reaching a given age.

with past increases.[18] Because retirees with higher lifetime earnings receive more per month than do retirees with lower earnings, their longer lifetimes will boost total outlays over the long term, all else being equal. Similarly, the greater increase in life expectancy among high earners will boost the ratio of lifetime Social Security benefits to lifetime Social Security taxes for high earners relative to that for low earners.[19]

Rising Cost of Benefits

If current laws remained in place and benefits were paid as scheduled, spending for Social Security would rise from 4.9 percent of GDP in 2015 to 6.2 percent by 2040, CBO projects. The share of Social Security spending on disability benefits would fall from 16 percent today to 13 percent in 2040 as a result of the decline in the share of the population that is between the age of 50 and the full retirement age. (Most first-time disability claimants are in that age group, and when they reach their full retirement age, they receive OASI rather than DI benefits.) During the 2040s, Social Security outlays would decrease relative to GDP, according to CBO's projections, and by the early 2050s, those outlays would dip below 6 percent of GDP as members of the baby-boom generation die. By the mid-2050s, however, outlays would climb again relative to GDP—reaching more than 6.4 percent of GDP by the late 2080s—because of increased longevity. The increase relative to the 4.9 percent of GDP spent today is largely attributable to the increase in the number of beneficiaries as a share of the population. If the age distribution remained constant, outlays relative to GDP would remain roughly stable at about 5 percent throughout the next 75 years.

Slow Growth in Revenues

CBO's revenue projections also are constructed under the assumption that current laws governing taxes generally remain in place. In that circumstance, CBO projects, Social Security revenues would grow more slowly than spending over the 2015–2040 period. The ratio of covered workers to beneficiaries would decline significantly over the next quarter century—from under 3 to 1 now to nearly 2 to 1 in 2040—and then continue to drift downward. Because Social Security payroll tax receipts constitute a fixed share of taxable earnings, and taxable earnings are projected to decline slightly as a share of GDP, payroll taxes also would decline as a share of GDP—from 4.3 percent in 2015 to 4.1 percent in 2040.

Nevertheless, under current law, both the number of Social Security recipients whose benefits are subject to taxation and their average income tax rates will increase.[20] As a result, income taxes on Social Security benefits that are credited to the Social Security trust funds are projected to increase 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—are estimated to amount to 4.4 percent of GDP, about 0.1 percentage point of GDP less than the current amount. Beyond 2040, the amount of tax revenues credited to the trust funds is projected to remain roughly stable as a percentage of GDP.

Solvency Measures

Analysts use a variety of measures—notably the Social Security program's actuarial balance, the trust funds' projected dates of exhaustion, the ratios of trust funds' assets to annual expenditures, and the gap between what are known as scheduled and payable benefits—to assess Social Security's sustainability under the current revenue-and-benefit structure. Those measures indicate the magnitude of the changes that would be necessary to improve the program's fiscal outlook and the potential consequences of not doing so.

18. For more information on mortality differentials among groups with different earnings, see National Academy of Sciences, Engineering, and Medicine, *The Growing Gap in Life Expectancy by Income: Implications for Federal Programs and Policy Responses* (National Academies Press, 2015), http://tinyurl.com/pp74v49; Hillary Waldron, "Mortality Differentials by Lifetime Earnings Decile," *Social Security Bulletin*, vol. 73, no. 1 (February 2013), pp. 1–37, www.ssa.gov/policy/docs/ssb/v73n1/v73n1p1.html; and Julian P. Cristia, *The Empirical Relationship Between Lifetime Earnings and Mortality*, Working Paper 2007-11 (Congressional Budget Office, August 2007), www.cbo.gov/publication/19096.

19. The ratio of lifetime Social Security benefits to lifetime payroll taxes decreases as lifetime earnings rise. Estimates of that effect vary widely and depend on which groups of 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 (Brookings, April 2014), pp. 5–6, http://tinyurl.com/nqlhpyt.

20. CBO's extended baseline is constructed under the assumption that income tax laws will remain generally unchanged and that income taxes on benefits will increase as a share of Social Security benefits throughout the 75-year projection period. In the future, however, revenues from income taxes on benefits will depend on prevailing tax rates.

Table 1.

Social Security Tax Revenues and Outlays Under Current Law, With Scheduled Benefits, in Selected Years

Percentage of Gross Domestic Product

	Actual,	Projected					75-Year Present Value[a] (2015–2089) as a Percentage of	
	2014	2020	2040	2060	2080		GDP	Taxable Payroll[b]
Tax Revenues	4.5	4.4	4.4	4.4	4.4	Income Rate	4.6 [c]	14.0
Outlays	5.0	5.3	6.2	6.1	6.3	Cost Rate	6.1 [d]	18.3
Difference	**-0.5**	**-0.8**	**-1.8**	**-1.7**	**-1.9**	**Actuarial Balance**	**-1.4** [e]	**-4.4**

Source: Congressional Budget Office.

Notes: Tax revenues consist of payroll taxes and income taxes on benefits in the year specified. Outlays consist of scheduled benefits and administrative costs. Scheduled benefits are benefits as calculated under the provisions of the Social Security Act, regardless of balances in the Social Security trust funds. For this analysis, CBO follows the common analytical convention of considering the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund as combined, even though legally they are separate.

GDP = gross domestic product.

a. Present value is a single number that expresses a flow of past and future income (in taxes) or payments (in benefits) in terms of an equivalent lump sum received or paid at a specific time. The value depends on the rate of interest, known as the discount rate, used to translate past and future cash flows into current dollars at that time.

b. Taxable payroll is total earnings (wages and self-employment income) for employment covered by Social Security that is below the taxable maximum.

c. The income rate is the present value of annual tax revenues over the 75-year period, plus the initial balance in the trust fund for that period, each of which is divided by the present value of GDP or taxable payroll.

d. The cost rate is the present value of annual outlays for the period, plus the present value of a year's worth of benefits as a reserve at the end of the 75 years, each of which is divided by the present value of GDP or taxable payroll.

e. The difference between the income rate and the cost rate is the actuarial balance.

Actuarial Balance. A common measure of the sustainability of a program with a trust fund and a dedicated revenue source is its estimated actuarial balance over a given period—in this case, 75 years. The actuarial balance is the sum of the present value of annual tax revenues over the 75-year period and the initial balance in the trust fund for that period, minus the sum of the present value of annual outlays over that period and the present value of a year's worth of benefits at the end of the period.[21] For Social Security, that difference is traditionally presented as a percentage of the present value of taxable payroll.[22] Over the next 75 years, if current laws remained in place, the program's actuarial shortfall would be 4.4 percent of taxable payroll, CBO estimates (see Table 1).[23]

Thus, given CBO's projections, actuarial balance could be achieved for Social Security through 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. If those changes came entirely from revenues or entirely from spending, they would

21. Present value is a single number that expresses a flow of past and future income (in taxes) or payments (in benefits) in terms of an equivalent lump sum received or paid at a specific time. The value depends on the rate of interest, known as the discount rate, used to translate past and future cash flows into current dollars at that time.

22. Taxable payroll is the total earnings (wages and self-employment income) from employment covered by Social Security that is below the applicable annual taxable maximum.

23. To be consistent with the 75-year actuarial balance reported by the Social Security trustees, the 75-year projection period used in this report begins in calendar year 2015 and ends in calendar year 2089.

amount, roughly, to a 35 percent increase in Social Security's dedicated revenues or to a 26 percent cut to the program's outlays for benefits relative to the amounts projected under current law for the 75-year period. To achieve actuarial balance over the period solely by reducing benefits for new recipients (keeping current recipients' benefits unchanged), a considerably larger cut in benefits—32 percent, starting in 2016—would be required.

The Social Security trustees estimated in 2015 that the program's 75-year actuarial shortfall was 2.7 percent of taxable payroll, 1.7 percentage points less than CBO estimates. The larger shortfall projected by CBO stems mostly from three areas of difference between the Social Security trustees' and CBO's projections: CBO anticipates that life expectancy will increase somewhat more rapidly, the incidence of disability will be a little higher, and interest rates will be 0.6 percentage points lower in the long run. All of the other factors that affect the actuarial shortfall, taken together, would lead CBO and the trustees to make more similar estimates. Eliminating a smaller actuarial shortfall would require a smaller increase in taxes or smaller reductions in benefits.

Some policy options presented in this report would increase or eliminate the taxable maximum and therefore would increase the amount of taxable payroll compared with the amount in CBO's extended baseline projection. In such cases, it would be inconsistent to measure the effects of a policy option on the Social Security system's actuarial balance expressed as a percentage of taxable payroll. Instead, the effects of the options on the actuarial balance are measured as a percentage of GDP. CBO projects that if current laws remained unchanged, the program's actuarial shortfall over the next 75 years would be 1.4 percent of GDP.

Trust Fund Exhaustion. Another common measure of Social Security's sustainability is a trust fund's date of exhaustion—the year in which its balance will reach zero. Under CBO's extended baseline, that will occur for the DI trust fund in fiscal year 2021 and for the OASI trust fund in calendar year 2030.[24] (For more details on the finances of the Disability Insurance program, see Appendix A.) CBO projects calendar year 2029 as the exhaustion date for the combined OASDI trust funds.

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 be permitted to pay full benefits when they were due. In the years after a trust fund was exhausted, annual outlays would be limited to annual revenues: All receipts to the trust fund would be used, and the trust fund balance would remain essentially at zero.[25]

Increases in payroll taxes or reductions in benefits could be undertaken to delay or prevent that outcome. To forestall the combined funds' exhaustion by 10 years (to 2039), for example, benefits for all current and future beneficiaries could be reduced by about 13 percent starting in 2016 or payroll tax rates could be increased by 2.4 percentage points (or 19 percent) over current rates. To delay the exhaustion of the combined trust funds by 10 years solely by reducing benefits for newly eligible beneficiaries would require payments to those beneficiaries to be cut by 28 percent, starting in 2016.

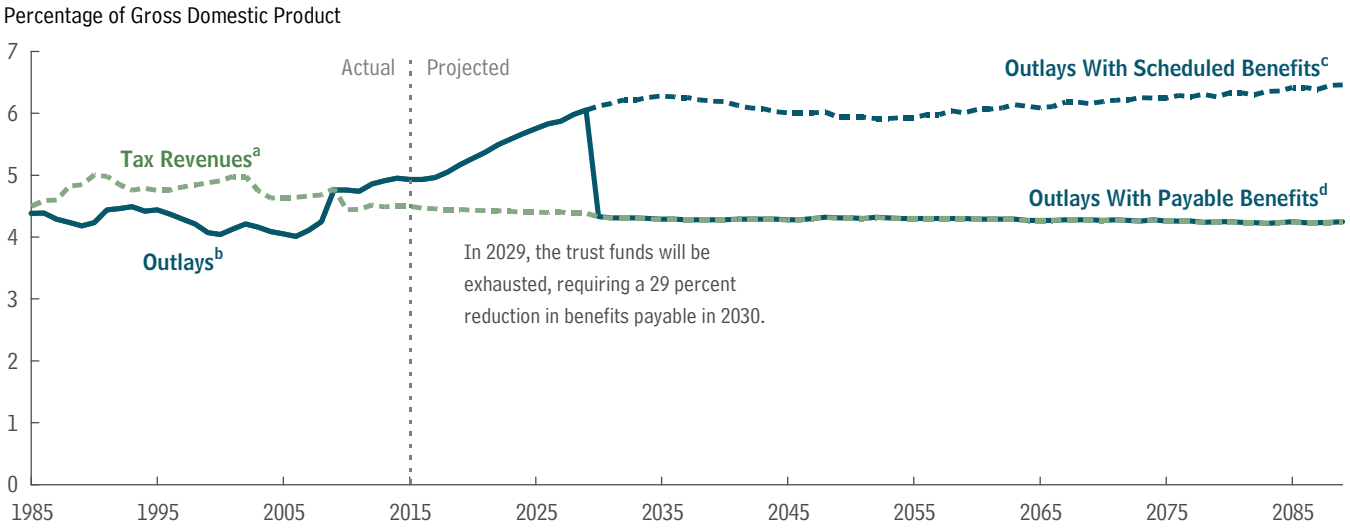
Trust Fund Ratio. Another measure of sustainability is the ratio of a trust fund's balance at the beginning of a calendar year to that year's projected outlays. The trust fund ratio can be used to approximate the number of years' worth of benefits that could be financed by a given balance if annual outlays remained constant. The ratio for the combined OASDI trust funds in 2015—the balance in the Social Security trust funds at the beginning of the year divided by projected outlays for the program in 2015—is 3.1, CBO estimates. The ratio peaked in 2008 at 3.6 and is projected to decline, reaching zero when the combined trust funds are exhausted in 2029.

24. CBO previously had projected that the DI trust fund would be exhausted in fiscal year 2017 and that the OASI trust fund would be exhausted in calendar year 2031. It changed those projections with the November 2, 2015, enactment of the Bipartisan Budget Act of 2015. The new law revised the allocation of the payroll tax between the two programs, granting a larger share to the DI trust fund for calendar years 2016 through 2018 and reducing by an equal amount the share allocated to the OASI trust fund for those years. Because total tax revenues would remain the same, CBO does not project a change from calendar year 2029 for the exhaustion of the combined OASDI trust funds.

25. See Noah P. Meyerson, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report for Congress RL33514 (Congressional Research Service, August 28, 2014), available from U.S. House of Representatives, Committee on Ways and Means, *2014 Green Book,* Chapter 1: Social Security, "Social Security Congressional Research Service Reports" (accessed December 9, 2015), http://go.usa.gov/cCXcG. That report notes the entitlement created under the Social Security Act, cites other laws that prohibit 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.

Figure 4.

Social Security Tax Revenues and Outlays, With Scheduled and Payable Benefits



Source: Congressional Budget Office.

a. Tax revenues consist of payroll taxes, income taxes on benefits, and, for 2011 and 2012, reimbursements from the general fund of the Treasury to make up for reductions in payroll tax rates in those years. Tax revenues do not include interest credited to the Social Security trust funds. Tax revenues shown are consistent with payable benefits; they would be slightly higher if scheduled benefits were paid because revenues from income taxes paid on those benefits would be higher.

b. Outlays consist of benefits and administrative costs.

c. Scheduled benefits are benefits as calculated under the provisions of the Social Security Act, regardless of balances in the Social Security trust funds.

d. Payable benefits are benefits as calculated under the provisions of the Social Security Act, reduced as necessary to ensure that outlays do not exceed the Social Security system's revenues once the balances in the Social Security trust funds are exhausted. 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 be permitted to pay full benefits when they were due. In the years after a trust fund was exhausted, annual outlays would be limited to annual revenues.

The Gap Between Scheduled and Payable Benefits. Social Security benefits can be considered in two ways: as *scheduled benefits*, which reflect the benefit formulas specified in law, regardless of a trust fund's balance, and as *payable benefits*, which conform to the limits imposed by a trust fund's balance.[26] In CBO's projections of outlays with payable benefits, OASI and DI benefits are reduced in 2030, the year after the combined trust funds are exhausted (see Figure 4).

In 2030, revenues are projected to equal 71 percent of scheduled outlays. Under those circumstances, the Social Security Administration would no longer be permitted to pay full benefits when they were due, and total outlays would need to be reduced to equal total revenues. The manner in which outlays would be reduced is not specified in law. For this report, CBO assumed that all beneficiaries would face the same reduction upon trust fund exhaustion—29 percent in 2030. By the end of the 2080s, that gap would be almost 35 percent, CBO projects.

Sustainable Solvency. Some analysts suggest that changes to Social Security should have two financial objectives: to balance the system's finances (to achieve actuarial balance) over the 75-year projection period and to put the system on a sustainable path thereafter. Those goals in combination are referred to as sustainable solvency.[27]

26. CBO's extended baseline is constructed under the assumption that Social Security will pay benefits as scheduled under current law regardless of the status of the program's trust funds—an assumption that 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.

27. See, for example, Stephen C. Goss, "The Future Financial Status of the Social Security Program," *Social Security Bulletin*, vol. 70, no. 3 (August 2010), pp. 111–125, http://go.usa.gov/3qJRz.

As a single number, the actuarial balance usefully summarizes the entire stream of revenues and outlays over the 75-year period (after adjusting for the starting balance in the trust funds and a year's worth of benefits at the end of the period), but it does not convey any information about sustainability after that. An approach that attained sustainable solvency would need to balance annual outlays and tax revenues over long periods. Such a system could allow for temporary imbalances, provided that sufficient assets were accumulated in the trust funds. To be sustainably solvent, the system would produce positive trust fund ratios for the duration of the 75-year projection period and then stable or rising ratios at the end of that time. However, a policy change that is projected to make the system solvent might fail to do so because of unexpected changes in demographics or in the economy.

Changing Social Security

This report examines 36 policy options that policymakers and analysts have suggested for changing the Social Security program. Each would alter at least one of the program's two key elements: payroll taxes and the benefit formula.

Various policy options would affect different groups of people in different ways. Some options would affect all workers or beneficiaries similarly; others would have widely disparate effects, depending on a beneficiary's year of birth or lifetime earnings. Options that increased payroll taxes would affect current and future workers, but not most current beneficiaries. Options that reduced scheduled initial benefits would affect future beneficiaries only, some of them currently in the workforce. Options that reduced COLAs or increased scheduled benefits would affect current and future beneficiaries alike.

Payroll Taxes

Ten options would affect payroll taxes for Social Security by changing either the rates at which covered earnings are taxed or the taxable maximum imposed on covered earnings or both.

Tax Rate. Under current law, employers and employees each pay half of the 12.4 percent payroll tax (self-employed people pay the entire amount).[28] In most years, 85 percent (10.6 percentage points) of those tax revenues is credited to the OASI trust fund, and 15 percent (1.8 percentage points) goes to the DI trust fund.[29] Several options would increase the payroll tax rate.

Taxable Maximum. The payroll tax is imposed on earnings up to a maximum that increases annually with average wages—that limit is now $118,500.[30] About 93 percent of workers covered by Social Security had earnings that were below the taxable maximum in 2014—they paid Social Security taxes on all of their earnings. The remaining 7 percent of workers had some earnings above the taxable maximum. Because such earnings are not subject to Social Security payroll taxes, those workers had a lower average payroll tax rate on their earnings overall. Earnings above the taxable maximum are excluded from benefit calculations.

In 1937, when the government first began to collect payroll taxes for Social Security, about 92 percent of the amount people earned from employment covered under the program was below the taxable maximum. For much of the program's history, the maximum was increased only occasionally, and the percentage of earnings subject to the tax varied greatly from one period to another, falling, for example, to 71 percent in 1965 and rising to 85 percent in 1977.

Amendments to the Social Security Act in 1977 boosted the amount of covered taxable earnings, which eventually reached 90 percent in 1983. That law also required annual indexing of the taxable maximum to match growth in average wages.

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 declined to 81 percent in 2015. CBO expects that disparity in earnings growth to continue for the next decade before stabilizing; the portion of earnings that is subject to the Social

28. The consensus among economists is that employers appear to pass on their share of payroll taxes to employees by paying lower wages than they would otherwise pay. See Don Fullerton and Gilbert E. Metcalf, "Tax Incidence," in Alan J. Auerbach and Martin Feldstein, eds., *Handbook of Public Economics*, vol. 4 (Elsevier, 2002), pp. 1787–1872.

29. However, from 2016 through 2018, as a result of the reallocation of the payroll tax rate specified in the Bipartisan Budget Act of 2015, 81 percent (10.03 percentage points) of Social Security's payroll tax revenues will be credited to the OASI trust fund, and 19 percent (2.37 percentage points) will go to the DI trust fund.

30. In years without a COLA—2009, 2010, and 2016—the taxable maximum does not increase; it does not decrease when average wages decline.

Security payroll tax is projected to fall to about 79 percent by 2025 and to decline slightly thereafter. [31]

Benefit Formula

Social Security benefits are determined through a process that applies a formula to workers' average lifetime earnings. A recipient's benefits are adjusted on the basis of the age at which he or she claims benefits relative to the full retirement age. Benefits also are provided to eligible spouses, survivors, and children of workers. In most years, beneficiaries receive a COLA, which raises the amount of the payment. Twenty-six options in this report would modify the various elements that determine benefits. In general, the modifications would reduce benefits and would affect nearly all beneficiaries, but a few would boost benefits or change them in some other way for three particular groups: people with low annual earnings over long periods, survivors of deceased workers, and spouses of retired workers.

Average Indexed Monthly Earnings. A recipient's Social Security benefits are determined by average taxable earnings over that person's lifetime—his or her average indexed monthly earnings (AIME). The earnings used to calculate that measure for a retired beneficiary encompass the 35 years with the highest earnings that were subject to Social Security payroll taxes.[32] In calculating the AIME, taxable earnings before age 60 are adjusted on the basis of the average wage index (AWI); earnings at age 60 and later enter the computations at their nominal amounts.[33] Dividing the resulting value for total earnings by 420 (35 years multiplied by 12 months) yields a single value, the AIME. For a disabled worker, the number of years of earnings included in the calculation of the AIME depends on the age at which that person becomes eligible for DI benefits.[34]

Primary Insurance Amount. The primary insurance amount (PIA) is the amount to be paid each month to a disabled worker or to a worker who begins to receive Social Security retirement benefits at the FRA. Actual monthly benefits paid to retired workers and their dependents differ from the PIA if a person claims retirement benefits before or after reaching the FRA. Under current law, the formula for calculating the PIA uses a worker's AIME as a starting point. That amount is converted to the PIA by applying PIA factors (the replacement rates applied to portions of the AIME), which change at what are called bend points.

PIA Factors. The PIA formula multiplies portions of a worker's AIME by PIA factors, which under current law are 90 percent, 32 percent, and 15 percent (see Figure 5). The PIA formula is progressive, so it replaces a larger share of lifetime earnings for someone with a lower AIME than it does for a person with higher average earnings.

Bend Points. The thresholds at which PIA factors change are the PIA formula's bend points; there are two—$826 and $4,980 in 2015. For newly eligible beneficiaries, the PIA is calculated as 90 percent of the first $826 of the AIME (that portion of the AIME is replaced under the PIA formula at a rate of 90 cents on the AIME dollar), plus 32 percent of the AIME between the two bend points ($826 and $4,980), plus 15 percent of the AIME above the second bend point. The bend points are indexed annually to growth in average wages.

The distribution of workers' AIMEs relative to the bend points is expected to change as a result of trends in the growth of earnings. Under the simplifying assumption that all workers claim at age 65, CBO projects that over the next 25 years, the portion of workers with AIMEs below the first bend point will increase from about 10 percent today to about 13 percent in 2040, and the portion of workers with AIMEs above the second bend point will decrease from about 28 percent today to about 23 percent over that same period. The percentage of workers with AIMEs between the first and second bend points will increase from about 62 percent today to about 64 percent

31. For more details on CBO's projections of taxable earnings, see Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, www.cbo.gov/publication/50250.

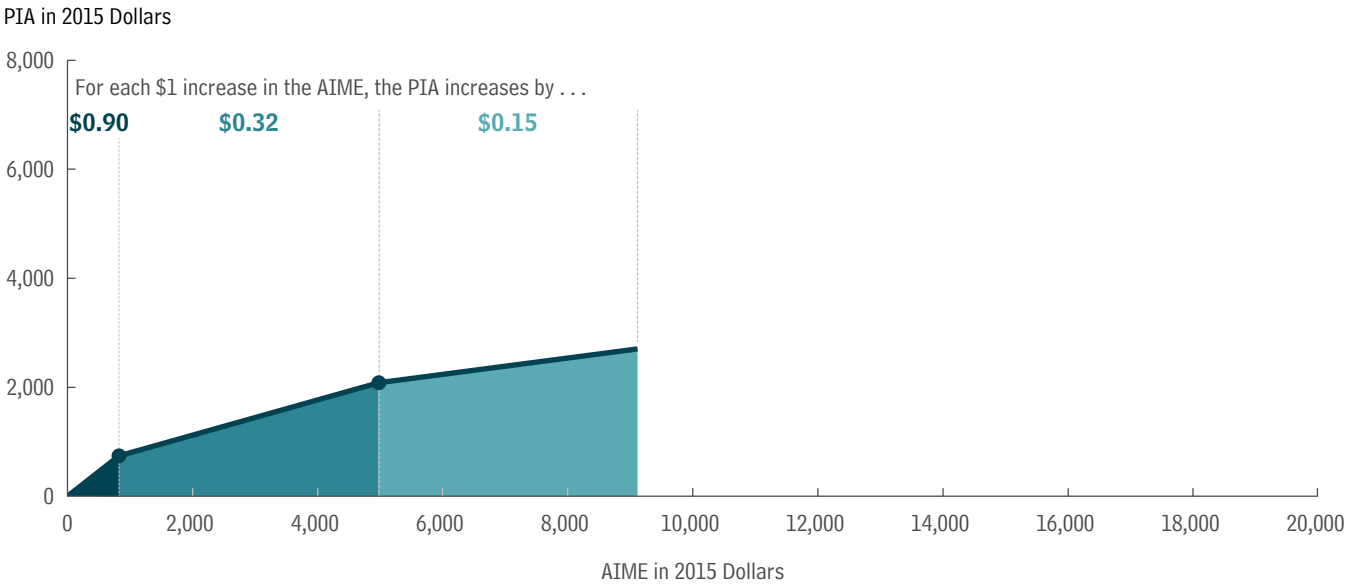
32. Adjustments are made to this method for people claiming retired-worker benefits if they previously claimed Social Security disability benefits but then recovered and left the DI rolls.

33. The AWI measures the average amount of total wages in the United States in a calendar year, including earnings in employment not covered by Social Security. Several automatic adjustments under Social Security law are based on the AWI.

34. For disabled workers, earnings in the two years before initial entitlement to benefits enter the AIME calculation at their actual amounts, whereas other yearly earnings are indexed to compensate for economywide growth in earnings. See Noah P. Meyerson, *How Social Security Benefits Are Computed: In Brief,* Report for Congress R43542 (Congressional Research Service, May 12, 2014), available from U.S. House of Representatives, Committee on Ways and Means, *2014 Green Book,* Chapter 1: Social Security, "Social Security Congressional Research Service Reports" (accessed December 9, 2015), http://go.usa.gov/cCXcG.

Figure 5.

Calculating the PIA in 2015 Under Current Law



Source: Congressional Budget Office.

Notes: The formula for calculating the PIA has three PIA factors (which determine the percentage of the AIME that is replaced in the PIA formula) and two bend points (denoted by dots on the line, showing the thresholds at which the PIA factor changes). In 2015, for newly eligible beneficiaries, the PIA is calculated as 90 percent of the first $826 of the AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent of the AIME between $826 and $4,980, plus 15 percent of the AIME above $4,980.

If a person born in 1953 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2015, that person's AIME would be $9,130, the maximum; his or her PIA would be $2,700.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

in 2040. Those percentages will remain roughly stable at their 2040 values through the remainder of the 75-year projection period. Hence, changes to Social Security's benefit formula that would primarily affect high lifetime earners would affect a smaller portion of people turning 65 in 2040 than today; changes to the benefit formula that would primarily affect low lifetime earners would affect a larger portion of people turning 65 in 2040 than today.

Full Retirement Age. Social Security's FRA, also called the normal retirement age, is the age at which a person becomes eligible to claim full retirement benefits and is set according to the year in which a person was born. Under current law, for workers born before 1938, the FRA is 65. For workers born between 1938 and 1943, the FRA increases by two months for each successive birth year, until it reaches age 66 for people born in 1943. The FRA remains at age 66 for those workers born between 1943 and 1954, and then starting with people born in 1955, increases once again by two months for each successive year, until it reaches age 67 for people born in 1960 or later. For people turning 62 in 2015 the FRA is 66. The FRA will begin to increase for people turning 62 in 2017, and it will reach age 67 for those turning 62 in 2022.

For each year that a worker claims benefits before reaching the FRA, benefits are reduced by an amount that ranges from 5 percent to 6⅔ percent. New beneficiaries between the FRA for their birth cohort and age 70 receive a delayed-retirement credit, which increases benefits by 8 percent for each year beyond the FRA that a person delays receiving benefits.[35] (For information on the

35. If a worker claims benefits before reaching the FRA, benefits are reduced by 5/9 of 1 percent for each month (6⅔ percent per year) before the FRA, for up to 36 months. If the number of months exceeds 36, the benefit is further reduced by 5/12 of 1 percent per month (5 percent per year). People who were born in 1943 or later and who claim benefits after reaching their FRA generally receive a delayed-retirement credit that amounts to 8/12 of 1 percent for each month (8 percent per year) they delay claiming. No additional credit is given if a person first claims benefits after age 70. See Social Security Administration, Social Security Benefits, "Effect of Early or Delayed Retirement on Retirement Benefits" (August 2010), www.ssa.gov/oact/ProgData/ar_drc.html.

actuarial fairness of the reductions or increases to benefits at various ages for claiming them, see Appendix B.)

Cost-of-Living Adjustments. Social Security's COLAs are based on changes in the consumer price index for urban wage earners and clerical workers (CPI-W); in most years, such changes lead to an increase in benefits. The COLA is applied to December benefits, which are sent to recipients in January, and it is made on the basis of growth in the CPI-W from the third quarter of the last year a nonzero COLA was determined to the third quarter of the current year. If there is no increase in the CPI-W over that period (or if it declines) the COLA is set at zero. For example, the 1.7 percent COLA that applied to benefits paid in January 2015 was based on the increase in the CPI-W between the third quarters of 2013 and 2014; no COLA will be applied to benefits paid in January 2016 because the CPI-W decreased slightly between the third quarter of 2014 and the third quarter of 2015.[36]

Since 1975, when COLAs first were automatically adjusted to changes in the CPI-W, benefits have increased, on average, by just under 4 percent each year. Over the past 10 years, annual COLAs have averaged 2.0 percent and have varied over a fairly broad range: They have been as high as 5.8 percent (for benefits paid in 2009) and, excluding years with COLAs set to zero, as low as 1.5 percent (for benefits paid in 2014).

Special Minimum Benefit for Low Earners. The special minimum benefit was introduced in 1972 to provide adequate benefits for people who had been low earners for many years. Each Social Security beneficiary receives the larger of two payments: the standard benefit or a special minimum benefit. To be eligible for the special minimum benefit, a worker must have at least 11 years of earnings above a threshold—in 2015, $13,230. Each year of earnings above that threshold is called a year of coverage and the number of years a worker accrues determines the PIA for the special minimum benefit.[37] A worker with at least 30 years of coverage receives that full PIA—$830 per month for a newly eligible beneficiary in 2015. That amount is prorated for workers with fewer than 30 years of coverage. For 2015, the PIA for a newly eligible beneficiary with 11 years of coverage was just under $40 per month.[38]

Under current law, the full PIA for the special minimum benefit increases to keep pace with prices. Because the standard benefit is indexed to earnings, which tend to grow faster than prices, the special minimum benefit affects a smaller group of people each year. In each year since 1993, fewer than 1,000 families had a newly entitled beneficiary receive the special minimum benefit. It is projected that there will be no newly eligible beneficiaries after 2018.[39]

Benefits for Spouses and Survivors of Retired Workers. In some cases, family members of retired workers are eligible for benefits even if they cannot claim Social Security on the basis of their own earnings. Under current law, an eligible spouse of a retired or disabled worker (who is called the primary beneficiary) is entitled to benefits that amount to 50 percent of the primary beneficiary's PIA if he or she is not eligible for benefits on the basis of his or her own earnings. If the spouse also has earned benefits but has a PIA that is less than 50 percent of the primary beneficiary's PIA, the spouse's payments are increased to meet the 50 percent threshold. A spouse whose PIA (based on his or her own earnings) is 50 percent or more of a primary beneficiary's PIA receives no additional amount. If the spouse of a primary beneficiary claims benefits before reaching the full retirement age, that recipient's benefits are reduced and the primary beneficiary's payments remain unchanged.[40]

An eligible surviving spouse of a deceased worker can receive survivors' benefits that total up to 100 percent of the deceased worker's benefits. If a surviving spouse also is

36. The COLAs that applied to benefits paid in 2010 and 2011 also were set at zero. Because of a decline in the CPI-W from the third quarter of 2008 to the third quarter of 2009, the COLA was set at zero in December 2009 and there was no adjustment to benefits paid in 2010. The CPI-W increased from the third quarter of 2009 to the third quarter of 2010, but it remained below the level reached in the third quarter of 2008 and the COLA was, again, set at zero. The value of the CPI-W in the third quarter of 2011 exceeded the 2008 third-quarter level. The COLA was set at 3.6 percent in December 2011 and benefits increased in 2012.

37. For amounts of earnings needed for a year of coverage, see Social Security Administration, "Old-Law Base and Year of Coverage," www.ssa.gov/oact/COLA/yoc.html (accessed December 9, 2015).

38. For tables with PIAs for the special minimum benefit by accrued years of coverage, see Social Security Administration, "Special Minimum Benefit Tables," www.ssa.gov/oact/ProgData/tableForm.html (accessed December 9, 2015).

39. See Craig A. Feinstein, *Diminishing Effect of the Special Minimum PIA*, Actuarial Note 154 (Social Security Administration, November 2013), http://go.usa.gov/3qJPj.

40. A person who is divorced can claim spousal or survivors' benefits that are based on the former spouse's earnings if he or she was married to that person for at least 10 years and is not currently married.

eligible to receive benefits on the basis of his or her own earnings and those benefits are less than 100 percent of the primary beneficiary's total, the spouse's benefits are increased to meet the 100 percent threshold. A surviving spouse whose own benefits are 100 percent or more of the deceased spouse's benefits receives no additional amount. Payments also depend on the age at which benefits are claimed—from 71½ percent of the full amount at age 60 to 100 percent at or over the FRA. A surviving spouse under the age of 60 may be eligible for benefits if he or she is disabled or is the surviving parent of a child under the age of 16.[41]

Assessing Options for Changing Social Security

This report discusses the effects of 36 policy options on the system's finances over the next 75 years. It also considers those options' distributional consequences—in terms both of taxes collected and of benefits paid—for people classified by birth cohort or lifetime earnings. Most of the options that CBO examined for this report would change the Social Security system's current structure enough to affect its finances measurably. A few would affect the system's finances far less but still influence distributional outcomes to a measurable degree. Changes to Social Security's taxes and benefits may affect people's decisions about how much to work, when to retire, and how much to save for retirement; this analysis examines some of the ways such changes could occur. Options that would reduce benefits would increase beneficiaries' risk of poverty; options that would increase benefits would reduce that risk.

Scope of the Options

The policy options detailed in this report would change the amount of federal revenues dedicated to Social Security or alter the system's outlays for benefits. Most options would increase the balances in the combined OASDI trust funds, but a few would reduce those balances by increasing benefits. Even though any comprehensive proposal to change Social Security would probably include more than one provision and the combined effects would not necessarily be additive, this report considers each option's effects separately. The options that CBO has analyzed are generally presented in simplified form—they are not detailed legislative proposals.

Timing of Implementation. For each option, as under current law, the applicable benefit rules would be those in force in the year in which a person became entitled to benefits, not the year in which he or she chose to begin receiving them.

Many proposals to change Social Security do not call for a reduction in initial benefits for workers who are age 55 or older because those older workers would have less time than younger workers to adjust their plans for working or saving. Consequently, the options in this study that would reduce initial benefits, including those that would change the FRA, are assumed to take effect for people born after 1960—the group that in 2015 is under the age of 55. Under current law, the first of those people—who were born in 1961—will reach the early eligibility age (EEA) for retirement benefits when they turn 62 in 2023. Options that would reduce initial disability benefits are assumed to take effect for workers claiming those benefits in 2023 and later; those options would not reduce benefits for workers who claim DI benefits before 2023, regardless of their birth year. Options that would increase benefits, modify COLAs, or increase taxes are assumed to take effect beginning in 2016.

In the past, policymakers have chosen to introduce major changes gradually to ensure that people of similar age and circumstances would be subject to similar rules governing taxes and benefits. Most of the options in this report that would increase taxes or decrease benefits, therefore, are structured for implementation over a 10-year period. The exceptions are those that inherently produce gradual changes, such as options that would shift from wage indexing to price indexing, shift to indexing by longevity, or change COLAs. Options that would increase benefits would take effect fully and immediately in 2016; in some cases, those options also would increase benefits for current recipients.

41. The descriptions of the spousal and survivors' benefits presented in this report summarize the most common circumstances under which people qualify for those benefits. The rules are complex, however, and many other provisions apply that are not discussed in this report. For more information, see Social Security, *Retirement Benefits*, SSA Publication 05-10035, ICN 457500 (January 2015), www.ssa.gov/pubs/EN-05-10035.pdf (369 KB), and *Survivors Benefits,* SSA Publication 05-10084, ICN 468540 (July 2015), pp. 5–6, www.ssa.gov/pubs/EN-05-10084.pdf (350 KB).

Options That Would Affect DI Beneficiaries. Although some policy options in this report would affect DI beneficiaries by affecting all Social Security recipients, for this analysis, CBO did not examine proposals that would be specific to the DI program. If policymakers wanted to offset some of the effects on DI benefits of a proposal to change retirement and disability benefits alike, they could add offsetting changes to DI benefits.

DI benefits constitute about one-sixth of total Social Security outlays, and those expenditures have increased rapidly over the past 40 years.[42] Consequently, policy options for the DI program could have substantial implications for Social Security's finances if they reduced or increased DI outlays; CBO has examined them in other work.[43] (For more details on the finances of the Disability Insurance program, see Appendix A.)

Options Not Included in This Study. CBO excluded three main types of proposals from this study: those that would establish individual accounts; those that would make changes to revenues that do not directly affect the payroll tax rate or the taxable maximum; and those that, although within the program's existing structure, would not have a major effect on the Social Security system's finances.

In the past, CBO has analyzed comprehensive proposals that would pay benefits from individual accounts that workers contribute to over their years of employment, and it has examined such proposals in combination with other options to change various elements of the system.[44] But an analysis of that type was beyond the scope of this study, which focused on the existing program. The creation of individual accounts could require many changes to the Social Security program and possibly to other areas of the law outside of Social Security; the resulting interactions between those individual accounts and the altered program therefore could be significant. The benefits paid to an account holder at retirement would depend on how much that person had paid into his or her retirement account, the rate of return on the account's assets during his or her working life, and other benefits for which he or she would be eligible through the altered Social Security system.

The policy options in the current report that would alter the amount of revenues credited to Social Security's trust funds involve taxes: They would affect the system's finances either by changing the taxation of earnings or by changing the taxable maximum. CBO did not analyze proposals that would directly change the taxes paid on Social Security benefits. The agency also did not examine proposals that would expand the types of income that are subject to the payroll tax, such as employers' contributions to their employees' health insurance premiums. And it did not examine proposals to draw on general government revenues for Social Security or to change the form of investment for the trust funds. Such changes could have sizable effects on the system's finances.

Also excluded was an analysis of approaches that would reduce or eliminate payroll taxes for workers after they reached a particular age or had paid payroll taxes for a specified number of years. Such policies would reduce Social Security's revenues from payroll taxes, but they also would encourage older workers to stay in the labor force and thereby increase the stream of revenue to the general fund in the form of income taxes.

Many other changes could achieve various policy goals for Social Security, although they would not produce substantial long-term effects on the system's finances.[45] Several possibilities that have received attention elsewhere are not included in this study:

42. The growth in DI spending has been driven largely by an increase in the number of beneficiaries. In 1970, 2.7 million people received benefits; by the end of October 2015 that number had grown to almost 11 million. For a discussion of trends, see Congressional Budget Office, *Social Security Disability Insurance: Participation Trends and Their Fiscal Implications* (July 2010), www.cbo.gov/publication/21638.

43. For information on policy options specific to Disability Insurance, see Congressional Budget Office, *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 44–46, www.cbo.gov/budget-options/2013/44687, and *Policy Options for the Social Security Disability Insurance Program* (July 2012), www.cbo.gov/publication/43421.

44. For an example of CBO's analysis of individual accounts, see Congressional Budget Office, letter to the Honorable Paul Ryan containing an analysis of the Roadmap for America's Future Act of 2010 (January 27, 2010), www.cbo.gov/publication/41860.

45. CBO has presented similar options that are not analyzed here. See Congressional Budget Office, *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 143 and 279, www.cbo.gov/budget-options/2013/44687.

- The delayed-retirement credit could be changed so that a portion could be paid as a lump sum.
- The current-law special minimum benefit could be increased or indexed to growth in wages instead of prices.
- Benefit increases could be targeted toward parents whose earnings were low during years that they were caring for children.
- Social Security coverage could be made mandatory for all public-sector employees, including state and local government workers who now are exempt.
- The formulas for the Windfall Elimination Provision and the Government Pension Offset could be simplified, in addition to increasing or decreasing the effects these provisions have on workers' benefits.[46] Also, so that both provisions were applied to all appropriate beneficiaries, state and local pension plans could be required to notify the Social Security Administration of any pension benefits from noncovered employment that are provided to retirees or other beneficiaries.
- The treatment of spousal benefits could be changed to reduce the disparity in the amounts payable to dual- and single-earner couples with the same earnings. Under current law, benefits generally replace a greater share of lifetime earnings for couples with one earner than for two-earner couples.
- The length of time a person must have been married to be eligible for benefits as a divorced spouse or divorced widow could be changed.
- The age at which benefits end could be changed for full-time students who are the children of retired, disabled, or deceased workers.
- The current lump-sum death benefit of $255 that is paid to a spouse when a beneficiary dies could be increased, decreased, or eliminated.

Although this report generally excludes options that would not have a major effect on the system's finances, there are several exceptions: Option 34, Option 35, and Option 36 would directly affect benefits paid to workers' spouses or survivors and would change Social Security's 75-year actuarial balance by less than 0.1 percentage point of GDP. All three could significantly affect benefits for their targeted groups, and policymakers have recently proposed similar approaches.

CBO's Analytical Methods

The projections of Social Security spending and revenues under current law and under the policy options presented in this report are based on a detailed microsimulation model, which starts with data about individuals from a 1-in-1,000 sample of the population and projects demographic and economic outcomes for that sample through time. For each individual in the sample, CBO uses the model to simulate 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.[47] The analysis presented in this report constitutes the mean results from 30 simulations of CBO's model.[48]

46. The Windfall Elimination Provision and the Government Pension Offset reduce the Social Security benefits of some federal, state, and local workers who are eligible for government pensions that are based on earnings not covered by Social Security and who are also eligible for Social Security benefits based on their own or a spouse's earnings records.

47. For a description, see Congressional Budget Office, *CBO's Long-Term Model: An Overview* (June 2009), www.cbo.gov/publication/20807. For information about demographic and economic projections, see Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, www.cbo.gov/publication/50250.

48. Transitions for individuals—for example, marriage, mortality, and employment—in the microsimulation model are determined by comparing a random number to the probability of a specific transition's occurring for an individual. Each simulation uses a different set of random numbers. The model's outcomes vary slightly depending on the random numbers used—that effect is known as Monte Carlo variation. Because the range of variation is small, presenting an average of the results of 30 simulations shows the center of the distribution of outcomes and controls for the Monte Carlo variation. See Michael Simpson, Principal Analyst, Health, Retirement, and Long-Term Analysis Division, Congressional Budget Office, "Investigating Monte Carlo Variation in a Dynamic Microsimulation Model" (presentation to the Fifth World Congress of the International Microsimulation Association, Esch-sur-Alzette, Luxembourg, September 2, 2015), www.cbo.gov/publication/50736.

Although the projected values for Social Security taxes and benefits over many decades are quite uncertain, analyses of the effects of uncertainty in those values on the results for each option were outside the scope of this study.[49] Changes to Social Security benefits could affect other federal benefits people might receive—Supplemental Security Income, for example—but CBO also did not analyze those effects for this report. Similarly, CBO did not assess the effect of the options on the economy or the ways in which those effects could, in turn, affect the budget.[50]

Effects of the Options on the System's Finances

As a summary measure of the effects of each option, CBO estimated the change in the 75-year actuarial balance of the combined OASDI trust funds as a percentage of GDP. (Those effects on the trust funds, both individually and combined, are discussed further in Appendix C.) CBO's calculations were based on scheduled benefits because, by definition, the system is in financial balance with payable benefits, which would be reduced automatically to eliminate any shortfall. CBO also estimated the change in the projected date of the OASDI trust funds' exhaustion. (For the effects of the options on Social Security's finances, see Table 2 on page 23.)

None of the options that CBO analyzed would, on its own, eliminate all or even most of Social Security's 75-year actuarial imbalance, which is 1.4 percent of GDP, by CBO's estimate. Likewise, no option on its own would achieve sustainable solvency. Only four options would delay the exhaustion of the combined OASDI trust funds by five years or more beyond the projected exhaustion date in 2029. Individual options could be modified to have a smaller or larger effect on the actuarial balance by changing policy parameters or the date or speed of implementation, but even so, it would be difficult to significantly delay the trust funds' exhaustion by using just one of the options. (Even the combined effects of several options might not be sufficient to avert the trust funds' exhaustion.)

Most of the 36 options would improve the system's finances to some degree, although several would worsen them. Option 1, which would raise the payroll tax rate by 1 percentage point, would improve the balance between the Social Security system's annual costs and its annual income immediately and permanently. In contrast, the full effects of many options would be gradual—they include a 10-year phase-in, they apply only to newly eligible beneficiaries, or they change the COLA calculation. Some options would provide continuous and increasing improvements to the system's finances by changing the benefit formula or the full retirement age, or by indexing benefits to increases in prices rather than to average wages. Options that would raise the taxable maximum, and thus include additional taxable earnings in the benefit formula, would improve the system's finances initially, but as benefits increased in later years those effects would abate.

Effects of Delayed Implementation. The effects of any given option would depend on timing. For example, a postponement of the effective date of a reduction in scheduled benefits for newly eligible workers could mean that one fewer birth cohort would be affected; although the system's finances would still improve, that improvement would be smaller than would be the case if the policy took effect immediately. A later date for implementation also could give workers more time to prepare for changes in Social Security's rules—allowing them to adjust the amount they worked or saved, for example. To maintain a 75-year balance between revenues and scheduled benefits, however, each additional year's delay would necessitate a larger reduction in benefits or increase in taxes once the change was instituted.

Changes Since CBO's 2010 Report. The proportion of the Social Security system's financial shortfall that would be eliminated by the options presented in this report is smaller than that CBO estimated would result from the options it presented in 2010.[51] Much of that change is attributable to a substantial worsening, since 2010, in the

49. For an analysis of uncertainty in CBO's Social Security projections, see Congressional Budget Office, *CBO's 2015 Long-Term Projections for Social Security: Additional Information* (December 2015), www.cbo.gov/publication/51047, and *Quantifying Uncertainty in the Analysis of Long-Term Social Security Projections* (November 2005), www.cbo.gov/publication/17472.

50. The current analysis incorporates some small changes in work behavior by beneficiaries in response to changes in expected benefits. For more, see Congressional Budget Office, *Projecting Labor Force Participation and Earnings in CBO's Long-Term Microsimulation Model* (October 2006), www.cbo.gov/publication/18237.

51. Congressional Budget Office, *Social Security Policy Options* (July 2010), www.cbo.gov/publication/21547.

outlook for the program's long-term finances as projected by CBO. The agency now projects a significantly larger actuarial imbalance and an earlier date for the exhaustion of the combined trust funds.

In particular, CBO has lengthened its projections of life expectancy, increased its projections of the share of workers who will receive disability benefits, and lowered its projections of the portion of earnings that will be subject to the payroll tax. Moreover, revenues from the payroll tax have fallen short of CBO's 2010 projections, and the permanent reduction in income tax rates that took effect in January 2013 led CBO to reduce the amount it projects will be paid in taxes on Social Security benefits. CBO also reduced its projection of long-term interest rates on government debt, another factor that would worsen the system's finances. Finally, the current projection period (2015 to 2089) includes more years with a sizable gap between the program's revenues and outlays than CBO projected in 2010 (which used a projection period of 2010 to 2084), and that difference will create a larger 75-year actuarial imbalance. In addition, the phase-in period for many of the policy options in this report spans a decade; more of the options in the 2010 report would have taken effect more quickly.

As a result of those changes, since CBO issued the 2010 report, the agency's projection of the 75-year actuarial imbalance has increased from 0.6 percent of GDP to 1.4 percent, so a larger change in the program would be needed to bring the system's finances into balance. No single option by itself in the current report could eliminate more than 80 percent of the actuarial imbalance; 11 of the 30 policy options presented in the 2010 report would have done so.

Moreover, the combined trust funds' exhaustion is now projected to occur in 2029 rather than in 2039 as CBO projected in 2010. At that time, the date of exhaustion was 29 years in the future; today the agency projects solvency for the combined trust funds for only the next 14 years. In all, four options in this report would forestall the funds' exhaustion by half a decade or more; 16 options in the 2010 report were projected to do so.

Effects of the Options on Payroll Taxes Paid and Benefits Received by Various Groups

Some options detailed in this report would affect people in all earnings groups similarly; others could have different effects on people depending on their earnings, birth cohort, or other circumstances. CBO considered the distributional effects of various options on initial benefits, the present value of lifetime benefits relative to lifetime earnings, and the present value of lifetime payroll taxes relative to lifetime earnings.[52] (An analysis of the options' distributional effects on scheduled benefits is presented in Table 3 on page 30; the options' distributional effects on payable benefits are identified in Table 4 on page 36.) Specifically, CBO examined three measures for identifying distributional effects:

- The percentage change in initial benefits for retired workers,
- The percentage change in the present value at age 65 of lifetime benefits relative to lifetime earnings, and
- The percentage change in the present value at age 65 of lifetime payroll taxes relative to lifetime earnings.

Changes to initial benefits isolate the effects of an option on retired workers, assuming that there is no change in the age at which workers claim retirement benefits and including earnings only through age 61. Changes to lifetime benefits provide a more comprehensive perspective because, unlike estimated initial benefits, projected lifetime benefits account for the age at which each person claims benefits and include disabled-worker benefits and benefits paid to dependents and survivors of workers. Scaling by lifetime earnings accounts for economic growth over time and provides context for the amount of benefits.

For this analysis, CBO calculated initial benefits (and subsequent changes) under the simplifying assumption that all workers claim benefits at age 65. Initial benefits are based on earnings through age 61 and are net of any income taxes paid on those benefits.

Lifetime benefits also are net of any income taxes recipients paid on them and, in addition to retired-worker benefits, include disabled-worker benefits and benefits paid

52. To compute present values for lifetime benefits, for lifetime payroll taxes, and for lifetime earnings, CBO used a discount rate that is equal to the effective rate on federal debt. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, www.cbo.gov/publication/50250.

to dependents and survivors of workers. (Because there are insufficient data on benefits received by young widows and children for years before 1984, benefits paid to young widows, spouses of disabled workers, and child beneficiaries are excluded from this measure.)

The worker's portion of the payroll tax was reduced by 2 percentage points for 2011 and 2012 (as was the tax paid by self-employed workers). For the estimates of lifetime payroll taxes, workers are assumed to have paid the full amount of the payroll tax in 2011 and 2012.

CBO examined the way changes resulting from the various policy options would affect beneficiaries in nine groups—defined by quintile (lowest, middle, or highest fifth) of lifetime household earnings and 10-year birth cohort (people born in the 1960s, 1980s, or 2000s).[53] The analysis assesses the options' effects on the average outcome in each group. In this study, "low earners" refers to people in the lowest quintile of lifetime household earnings, and "high earners" refers to people in the highest quintile of lifetime household earnings. A change in one of the three measures of distributional effects for a particular group refers to the percentage change caused by a policy option, relative to current law, in the mean value of that measure for that group.

The options discussed in this study would have a variety of effects on the finances of the Social Security system. The distributional trade-offs become clearer, however, if the options are compared while their overall effects on the system's finances are held constant. Therefore, in another exercise, CBO compared the distributional effects of 8 additional policy options it derived from the original 36, each of which would improve the actuarial balance by one-quarter—that is, by 0.35 percent of GDP (see Appendix D).

Effects of the Options on Work and Saving

A change in payroll tax rates or in the structure of Social Security benefits could influence people's decisions about how much to work, when to retire, and how much to save for retirement. Although such behavioral responses can be difficult to quantify, this analysis incorporates some changes in work behavior in response to changes in expected benefits. Additionally, although not included in the projections presented in this report, changes in the size of the labor force can have a broad effect on the federal budget through the amounts that the federal government collects in income taxes and the amounts it pays out in various benefits.

Effects on Work. Like any tax on earnings, the Social Security payroll tax reduces the reward from work, which tends to decrease the amount of work people do. At the same time, Social Security taxes and other taxes on earnings reduce overall income, and lower income can lead people to work more in order to maintain the same standard of living. The net effect of taxes on work reflects the balance of those forces; most economists conclude that, on average, the negative effects of taxes on hours worked outweigh the positive effects.[54] Thus, in CBO's estimation, increasing Social Security tax rates without increasing benefits would tend to decrease modestly the hours of labor that workers supplied. Increasing payroll tax rates also would encourage workers and their employers to shift some of their compensation to tax-exempt fringe benefits. High earners, who can have more flexibility than low earners about the structure of their compensation, are particularly likely to reduce their taxable earnings by electing to receive more of their compensation in the form of tax-exempt benefits.

The influence of higher payroll taxes on the incentive to work depends on whether such a tax increase also is associated with an increase in benefits. Option 8, for example, which would eliminate the taxable maximum but not affect benefits, would probably have a larger effect on work incentives than would Option 6, which would eliminate the maximum but include the additional taxable earnings in the computation of benefits.

Research on the implicit marginal tax rate on earnings in the Social Security system—that is, additional taxes paid minus the present value of the Social Security benefits earned from working one more year, as a percentage of earnings—has shown that the rate varies considerably

53. Each person who lives at least to age 45 is ranked by lifetime household earnings. Lifetime earnings for someone who is single in all years equals the present value at age 65 of his or her real earnings over a lifetime. In any year in which a person is married, the earnings measure equals the couple's total real earnings (adjusted for economies of scale in household consumption).

54. For a discussion of the issue, see Congressional Budget Office, *How the Supply of Labor Responds to Changes in Fiscal Policy* (October 2012), www.cbo.gov/publication/43674.

with a worker's circumstances.[55] Because Social Security replaces more earnings for low-earning than for high-earning workers, high earners typically face a higher implicit tax rate for Social Security than low-earning workers do. Options that increased tax rates up to a particular amount of earnings would affect all earners regardless of whether their earnings were above or below that amount, but the disincentives to work would be different.

Options that modified the way benefits are determined also would influence how long people remained in the workforce and how much they worked while in the workforce. If workers expected lower Social Security benefits, for example, they might stay in the workforce longer to claim benefits at a later age. However, a reduction in benefits also could mean (depending on the ways the benefit formula changed) that an extra year of work would increase future benefits by a smaller amount, thus discouraging work. On net, older workers would probably choose to work longer in response to a reduction in benefits, leading to a larger labor force.[56]

The decision about how long to remain in the workforce would be influenced differently by options that changed benefits and those that raised the full retirement age, even if the effects on benefits were identical. Because many workers claim benefits when they reach the FRA, raising that age would probably result in beneficiaries' claiming benefits later than they would if a policy with similar reductions to benefits was implemented through adjustments in the benefit formula.[57]

Increasing the FRA also would create a somewhat stronger incentive for some older workers to leave the labor force and apply for DI benefits rather than continue to work and then claim reduced retired-worker benefits at age 62.[58] (Changes in the FRA would not affect the benefits of workers who qualify for DI benefits.) Under current law, workers who claim retired-worker benefits at age 62 in 2023 will receive 70 percent of their primary insurance amount (that is, 70 percent of benefits due if they waited until reaching the FRA); if they qualify for DI benefits, however, they will receive 100 percent of that amount.

Effects on Saving. Social Security also affects people's decisions about saving. Although those effects are not discussed here, people who expect to receive Social Security benefits save less, on average, for retirement than they would if the program did not exist. In effect, Social Security substitutes to some extent for retirement saving: Some workers view the tax on their wages as a way to save money from each paycheck for retirement. Instead of accumulating assets to draw down when they retire, those workers anticipate that a significant percentage of their income in retirement will come from the benefits they expect to receive from Social Security.[59] Therefore, a reduction in benefits would probably cause more private saving among those workers.

To the extent that changes in Social Security increased private saving without increasing federal budget deficits, those changes also would increase national saving—the total amount of saving in the economy by the government and private sector. Over time, greater national saving would expand the stock of capital and result in greater total wealth and income.

55. Some workers' implicit marginal tax rate equals or is close to the statutory OASDI rate: They pay the tax but receive no or few additional benefits from additional earnings. But others face a much lower, or even negative, implicit marginal tax rate on their additional earnings (a negative marginal rate implies that the present value of Social Security benefits accruing from additional earnings exceeds the Social Security payroll taxes paid on those earnings). See Gopi Shah Goda, John B. Shoven, and Sita Nataraj Slavov, "Removing the Disincentives in Social Security for Long Careers," in Jeffrey R. Brown, Jeffrey B. Liebman, and David A. Wise, eds., *Social Security Policy in a Changing Environment* (University of Chicago Press, 2009), pp. 21–38, www.nber.org/books/brow08-1; and Martin Feldstein and Andrew Samwick, "Social Security Rules and Marginal Tax Rates," *National Tax Journal*, vol. 45, no. 1 (March 1992), pp. 1–22, http://tinyurl.com/o4vwqa6.

56. See Courtney Coile and Jonathan Gruber, "Future Social Security Entitlements and the Retirement Decision," *Review of Economics and Statistics*, vol. 89, no. 2 (May 2007), pp. 234–246, www.mitpressjournals.org/toc/rest/89/2; and Olivia S. Mitchell and John W.R. Phillips, *Retirement Responses to Early Social Security Benefit Reductions*, Working Paper 7963 (National Bureau of Economic Research, October 2000), www.nber.org/papers/w7963.

57. Before the recession of December 2007 to June 2009, the increase in the FRA caused a benefit cut that led many workers to delay claiming Social Security benefits. See Joyce Manchester and Jae G. Song, "What Can We Learn From Analyzing Historical Data on Social Security Entitlements?" *Social Security Bulletin*, vol. 71, no. 4 (November 2011), pp. 1–13, www.ssa.gov/policy/docs/ssb/v71n4.

58. See Mark Duggan, Perry Singleton, and Jae Song, "Aching to Retire? The Rise in the Full Retirement Age and Its Impact on the Social Security Disability Rolls," *Journal of Public Economics,* vol. 91, no. 7–8 (August 2007), pp. 1327–1350, http://tinyurl.com/lj4xu75.

59. See Congressional Budget Office, *Social Security and Private Saving: A Review of the Empirical Evidence* (July 1998), www.cbo.gov/publication/11011.

Table 2.

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change the Taxation of Earnings									
1									
Increase the	Tax Revenues	0.3	0.3	0.3	0.3	0.3	0.3		0.3
Payroll Tax Rate by	Outlays	*	*	*	*	*	*		*
1 Percentage Point[e]	**Difference[f]**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**		**0.3**
2									
Increase the									
Payroll Tax Rate by	Tax Revenues	0.6	0.6	0.6	0.6	0.6	0.6		0.6
2 Percentage Points	Outlays	*	*	*	*	*	-0.1		*
Over 10 Years[e]	**Difference[f]**	**0.6**	**0.6**	**0.7**	**0.6**	**0.7**	**0.7**		**0.6**
3									
Increase the									
Payroll Tax Rate by	Tax Revenues	0.2	0.4	0.5	0.7	0.8	0.9		0.5
3 Percentage Points	Outlays	*	*	*	*	*	-0.1		*
Over 60 Years[e]	**Difference[f]**	**0.2**	**0.4**	**0.6**	**0.7**	**0.9**	**1.0**		**0.5**
4									
Raise the Taxable	Tax Revenues	0.5	0.6	0.6	0.6	0.6	0.6		0.5
Maximum to Cover	Outlays	0.1	0.1	0.2	0.3	0.3	0.3		0.2
90 Percent of Earnings[e]	**Difference[f]**	**0.5**	**0.4**	**0.4**	**0.3**	**0.3**	**0.2**		**0.3**
5									
Raise the Taxable									
Maximum to Cover	Tax Revenues	0.5	0.6	0.6	0.6	0.6	0.5		0.5
90 Percent of Earnings;	Outlays	*	*	*	*	*	*		*
Do Not Increase Benefits[e]	**Difference[f]**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**		**0.5**

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change the Taxation of Earnings (Continued)									
6									
Eliminate the Taxable Maximum[e]	Tax Revenues	1.1	1.1	1.1	1.1	1.1	1.1		1.0
	Outlays	0.1	0.3	0.5	0.6	0.7	0.7		0.4
	Difference[f]	**1.0**	**0.8**	**0.6**	**0.5**	**0.4**	**0.4**		**0.6**
7									
Tax Covered Earnings Above the Taxable Maximum; Create a Two-Component System for Calculating the PIA[e]	Tax Revenues	1.1	1.1	1.1	1.1	1.1	1.1		1.0
	Outlays	*	0.1	0.1	0.2	0.2	0.2		0.1
	Difference[f]	**1.1**	**1.0**	**1.0**	**0.9**	**0.9**	**0.9**		**0.9**
8									
Tax Covered Earnings Above the Taxable Maximum; Do Not Increase Benefits[e]	Tax Revenues	1.1	1.1	1.1	1.0	1.1	1.0		1.0
	Outlays	*	*	*	-0.1	-0.1	-0.1		*
	Difference[f]	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**		**1.0**
9									
Tax Covered Earnings Above the Taxable Maximum at 4 Percent; Do Not Increase Benefits[e]	Tax Revenues	0.4	0.3	0.3	0.3	0.3	0.3		0.3
	Outlays	*	*	*	*	*	*		*
	Difference[f]	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**		**0.3**
10									
Tax Covered Earnings Above $250,000 at 4 Percent; Do Not Increase Benefits[e]	Tax Revenues	0.2	0.2	0.2	0.2	0.2	0.2		0.2
	Outlays	*	*	*	*	*	*		*
	Difference[f]	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**		**0.2**
Change the Benefit Formula									
11									
Raise From 35 to 40 the Years of Earnings Included in the AIME	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2		-0.1
	Difference[f]	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**		**0.1**

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change the Benefit Formula (Continued)									
12									
Index Earnings	Tax Revenues	*	*	*	*	*	*		*
in the AIME Formula	Outlays	*	*	-0.2	-0.3	-0.5	-0.5		-0.2
to Prices	**Difference[f]**	*	*	**0.2**	**0.3**	**0.4**	**0.5**		**0.2**
13									
Apply the Social Security									
Benefit Formula to	Tax Revenues	*	*	*	*	*	*		*
Individual Years	Outlays	*	-0.2	-0.2	-0.3	-0.3	-0.3		-0.2
of Earnings	**Difference[f]**	*	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**		**0.2**
14									
Reduce All PIA	Tax Revenues	*	*	*	*	-0.1	-0.1		*
Factors by 15 Percent	Outlays	-0.1	-0.4	-0.7	-0.8	-0.9	-0.9		-0.6
	Difference[f]	**0.1**	**0.4**	**0.6**	**0.8**	**0.8**	**0.9**		**0.5**
15									
Reduce the Top PIA	Tax Revenues	*	*	*	*	*	*		*
Factor to 10 Percent	Outlays	*	*	-0.1	-0.1	-0.1	-0.1		-0.1
	Difference[f]	*	*	**0.1**	**0.1**	**0.1**	**0.1**		**0.1**
16									
Reduce All PIA Factors	Tax Revenues	*	*	*	*	-0.1	-0.1		*
by 0.5 Percent Annually	Outlays	*	-0.2	-0.4	-0.6	-0.9	-1.2		-0.5
	Difference[f]	*	**0.2**	**0.4**	**0.6**	**0.9**	**1.1**		**0.5**
17									
Index Initial Benefits	Tax Revenues	*	*	*	*	*	-0.1		*
to Changes in Longevity	Outlays	*	-0.1	-0.2	-0.4	-0.6	-0.7		-0.3
	Difference[f]	*	**0.1**	**0.2**	**0.4**	**0.5**	**0.6**		**0.3**

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change the Benefit Formula (Continued)									
18									
Implement Pure Price	Tax Revenues	*	*	*	-0.1	-0.1	-0.2		-0.1
Indexing of	Outlays	-0.1	-0.4	-0.9	-1.5	-2.1	-2.6		-1.2
Initial Benefits	**Difference[f]**	**0.1**	**0.4**	**0.8**	**1.4**	**2.0**	**2.4**		**1.1**
19									
Implement Progressive Price Indexing of Initial Benefits for the Top 70 Percent of Earners	Tax Revenues	*	*	*	*	-0.1	-0.1		*
	Outlays	-0.1	-0.2	-0.5	-0.9	-1.2	-1.5		-0.7
	Difference[f]	**0.1**	**0.2**	**0.5**	**0.8**	**1.1**	**1.4**		**0.6**
20									
Implement Progressive Price Indexing of Initial Benefits for the Top 50 Percent of Earners	Tax Revenues	*	*	*	*	-0.1	-0.1		*
	Outlays	*	-0.2	-0.4	-0.7	-1.0	-1.2		-0.5
	Difference[f]	*****	**0.2**	**0.4**	**0.6**	**0.9**	**1.1**		**0.5**
21									
Index the Bend Points in the PIA Formula to Prices	Tax Revenues	*	*	*	*	-0.1	-0.1		*
	Outlays	*	-0.2	-0.4	-0.7	-1.0	-1.3		-0.6
	Difference[f]	*****	**0.2**	**0.4**	**0.7**	**1.0**	**1.2**		**0.5**
22									
Add an Additional Bend Point to the PIA Formula and Reduce the PIA Factors	Tax Revenues	*	*	*	-0.1	-0.1	-0.1		*
	Outlays	-0.1	-0.5	-0.7	-0.9	-1.0	-1.1		-0.6
	Difference[f]	**0.1**	**0.5**	**0.7**	**0.9**	**1.0**	**1.0**		**0.6**
23									
Increase the First Bend Point in the PIA Formula by 15 Percent	Tax Revenues	*	*	*	*	*	*		*
	Outlays	0.3	0.3	0.2	0.3	0.2	0.2		0.3
	Difference[f]	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.2**	**-0.2**		**-0.3**

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change the Benefit Formula (Continued)									
24									
Replace the Current PIA Formula With a New Two-Part Formula	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4		-0.2
	Difference[f]	**0.1**	**0.2**	**0.2**	**0.3**	**0.4**	**0.4**		**0.2**
Raise the Full Retirement Age									
25									
Raise the FRA to 68	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3		-0.2
	Difference[f]	**0.1**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**		**0.2**
26									
Raise the FRA to 70	Tax Revenues	*	*	*	-0.1	-0.1	-0.1		*
	Outlays	-0.1	-0.3	-0.6	-0.7	-0.8	-0.8		-0.5
	Difference[f]	**0.1**	**0.3**	**0.6**	**0.7**	**0.7**	**0.8**		**0.4**
27									
Increase the FRA by One Month per Birth Year	Tax Revenues	*	*	*	*	-0.1	-0.1		*
	Outlays	*	-0.2	-0.4	-0.6	-0.8	-1.0		-0.4
	Difference[f]	*	**0.2**	**0.3**	**0.5**	**0.7**	**0.9**		**0.4**
28									
Increase the FRA and the EEA by One Month per Birth Year	Tax Revenues	*	*	*	-0.1	-0.1	-0.1		*
	Outlays	-0.1	-0.2	-0.4	-0.5	-0.7	-0.8		-0.4
	Difference[f]	**0.1**	**0.2**	**0.4**	**0.5**	**0.6**	**0.7**		**0.4**
Change Cost-of-Living Adjustments									
29									
Base COLAs on the Chained CPI-U	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3		-0.2
	Difference[f]	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**		**0.2**

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a]
		2030	2040	2050	2060	2070	2080	2030–2080	(2015–2089)
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change Cost-of-Living Adjustments (Continued)									
30									
Base COLAs on the Chained CPI-U and Increase Benefits 20 Years After Initial Eligibility	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2		-0.1
	Difference[f]	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**		**0.1**
31									
Base COLAs on the CPI-E	Tax Revenues	*	*	*	*	*	*		*
	Outlays	0.1	0.1	0.2	0.2	0.2	0.2		0.1
	Difference[f]	**-0.1**	**-0.1**	**-0.2**	**-0.2**	**-0.2**	**-0.2**		**-0.1**
32									
Reduce COLAs for People With Higher PIAs	Tax Revenues	*	*	*	*	*	*		*
	Outlays	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2		-0.1
	Difference[f]	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**		**0.1**
Change Benefits for Specific Groups									
33									
Introduce a New Poverty-Related Minimum Benefit	Tax Revenues	*	*	*	*	*	*		*
	Outlays	0.2	0.2	0.2	0.2	0.2	0.2		0.2
	Difference[f]	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**		**-0.2**
34									
Create an Alternative Benefit for Spouses of Deceased Workers	Tax Revenues	*	*	*	*	*	*		*
	Outlays	*	*	*	*	*	*		*
	Difference[f]	*	*	*	*	*	*		*
35									
Limit the Survivors' Benefit	Tax Revenues	*	*	*	*	*	*		*
	Outlays	*	*	*	*	*	*		*
	Difference[f]	*	*	*	*	*	*		*

Continued

Table 2. **Continued**

Changes to Social Security's Finances Under Various Options, With Scheduled Benefits

Percentage of Gross Domestic Product

		Annual Finances							75-Year Present Value as a Percentage of GDP[a] (2015–2089)
		2030	2040	2050	2060	2070	2080	2030–2080	
		Current Law[b]						Annual Difference[c]	
	Tax Revenues	4.4	4.4	4.4	4.4	4.4	4.4		4.6
	Outlays	6.1	6.2	5.9	6.1	6.2	6.3		6.1
	Difference	**-1.7**	**-1.8**	**-1.5**	**-1.7**	**-1.8**	**-1.9**		**-1.4**
		Percentage-Point Change From Outcome Under Current Law							
								Change in Annual Difference[d] (2030–2080)	Change in the 75-Year Present Value
Change Benefits for Specific Groups (Continued)									
36									
Reduce the Spousal Benefit	Tax Revenues	*	*	*	*	*	*		*
	Outlays	*	*	*	-0.1	-0.1	-0.1		*
	Difference[f]	*	*	*	**0.1**	**0.1**	**0.1**		*

Source: Congressional Budget Office.

Notes: Scheduled benefits are benefits as calculated under the provisions of the Social Security Act, regardless of balances in the Social Security trust funds. For this analysis, CBO follows the common analytical convention of considering the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund as combined, even though legally they are separate.

Details of specific options are contained in the text; definitions of terms are in the glossary.

AIME = average indexed monthly earnings; COLA = cost-of-living adjustment; CPI-E = consumer price index for elderly consumers; CPI-U = consumer price index for all urban consumers; EEA = early eligibility age; FRA = full retirement age; GDP = gross domestic product; PIA = primary insurance amount; * = between -0.05 and 0.05 percentage points.

a. Over the 75-year period, tax revenues equal the present value of annual tax revenues plus the initial trust fund balance, each divided by the present value of GDP. Outlays equal 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 GDP. The difference between the present value of tax revenues and the present value of outlays is the actuarial balance.

b. "Current law" refers to current provisions of the Social Security Act for calculating benefits and payroll taxes. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Chapter 3, www.cbo.gov/publication/50250.

c. This area graph shows the annual difference between projected tax revenues and projected outlays under current law for the 2030–2080 period. The range is from -2.5 percent to 2.5 percent of GDP.

d. Each area graph shows the percentage-point change for that option compared with the outcome under current law in the difference between projected tax revenues and projected outlays over the 2030–2080 period. The range is from -2.5 percent to 2.5 percent of GDP.

e. In this analysis, because total compensation remains fixed, changes to payroll taxes paid by the employer, which are considered part of total compensation, reduce cash wages. The reduction in cash wages results in lower payroll taxes and in decreased benefits.

f. Negative numbers indicate an increase in the difference between tax revenues and outlays; positive numbers indicate a decrease in that difference.

Table 3.

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Taxation of Earnings										
1										
Increase the Payroll Tax Rate by	Low	*	*	*	*	*	*	2	6	8
1 Percentage Point[f]	Middle	*	*	*	*	*	*	2	6	8
	High	*	*	*	*	*	*	3	7	8
2										
Increase the Payroll Tax Rate by	Low	-1	-1	*	*	*	*	3	9	16
2 Percentage Points Over 10 Years[f]	Middle	-1	-1	-1	*	*	*	3	11	16
	High	-1	-1	-1	*	*	*	4	12	16
3										
Increase the Payroll Tax Rate by	Low	*	*	-1	*	*	*	1	4	11
3 Percentage Points Over 60 Years[f]	Middle	*	-1	-1	*	*	*	1	5	12
	High	*	*	-1	*	*	*	2	7	14
4										
Raise the Taxable Maximum to	Low	*	-1	*	*	*	*	*	*	*
Cover 90 Percent of Earnings[f]	Middle	*	*	*	*	*	1	*	*	1
	High	4	12	14	7	15	18	12	27	32
5										
Raise the Taxable Maximum to	Low	*	-1	-1	*	*	*	*	*	*
Cover 90 Percent of Earnings;	Middle	*	-1	-1	*	*	*	*	*	1
Do Not Increase Benefits[f]	High	*	-1	-1	*	*	*	12	27	32
6										
Eliminate the Taxable Maximum[f]	Low	-1	-1	-1	*	*	*	*	*	*
	Middle	*	*	*	*	1	1	*	*	1
	High	9	22	28	21	32	38	32	54	64
7										
Tax Covered Earnings Above the	Low	-1	-1	-1	*	*	*	*	*	*
Taxable Maximum; Create a	Middle	-1	-1	-1	*	*	*	*	*	1
Two-Component System for	High	2	6	8	6	10	13	33	54	64
Calculating the PIA[f]										

Continued

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Table 3. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Taxation of Earnings (Continued)										
8										
Tax Covered Earnings Above the	Low	-1	-1	-1	*	*	*	*	*	*
Taxable Maximum; Do Not Increase	Middle	-1	-1	-1	-1	*	*	*	*	1
Benefits[f]	High	-1	-1	-1	*	*	*	33	54	64
9										
Tax Covered Earnings Above the	Low	*	*	*	*	*	*	*	*	*
Taxable Maximum at 4 Percent;	Middle	*	*	*	*	*	*	*	*	*
Do Not Increase Benefits[f]	High	*	*	*	*	*	*	11	17	21
10										
Tax Covered Earnings Above	Low	*	*	*	*	*	*	*	*	*
$250,000 at 4 Percent;	Middle	*	*	*	*	*	*	*	*	*
Do Not Increase Benefits[f]	High	*	*	*	*	*	*	7	10	11
Change the Benefit Formula										
11										
Raise From 35 to 40 the Years of	Low	-5	-8	-8	-2	-4	-3	*	*	*
Earnings Included in the AIME	Middle	-5	-7	-7	-3	-4	-4	*	*	*
	High	-3	-5	-5	-2	-3	-3	*	*	*
12										
Index Earnings in the	Low	*	-7	-16	*	-4	-11	*	*	*
AIME Formula to Prices	Middle	*	-7	-14	*	-5	-11	*	*	*
	High	*	-5	-9	*	-4	-6	*	*	*
13										
Apply the Social Security Benefit	Low	-7	-14	-14	-4	-8	-9	*	*	*
Formula to Individual Years of	Middle	-3	-7	-7	-2	-4	-5	*	*	*
Earnings	High	-2	-5	-4	-1	-3	-3	*	*	*
14										
Reduce All PIA Factors by	Low	-7	-15	-15	-3	-11	-14	*	*	*
15 Percent	Middle	-7	-15	-15	-5	-14	-14	*	*	*
	High	-6	-14	-14	-6	-14	-14	*	*	*

Continued

Table 3. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Benefit Formula (Continued)										
15										
Reduce the Top PIA Factor to	Low	*	*	*	*	*	*	*	*	*
10 Percent	Middle	*	*	*	*	*	*	*	*	*
	High	-2	-3	-4	-2	-5	-5	*	*	*
16										
Reduce All PIA Factors by	Low	-2	-12	-20	-1	-7	-15	*	*	*
0.5 Percent Annually	Middle	-2	-11	-20	-2	-10	-18	*	*	*
	High	-2	-11	-19	-2	-11	-19	*	*	*
17										
Index Initial Benefits to	Low	-2	-10	-17	-1	-4	-7	*	*	*
Changes in Longevity	Middle	-2	-10	-17	-1	-6	-11	*	*	*
	High	-2	-10	-16	-2	-8	-14	*	*	*
18										
Implement Pure Price	Low	-5	-28	-45	-3	-18	-35	*	*	*
Indexing of Initial Benefits	Middle	-5	-28	-45	-4	-24	-42	*	*	*
	High	-5	-27	-44	-5	-27	-44	*	*	*
19										
Implement Progressive Price	Low	*	*	*	*	-1	-2	*	*	*
Indexing of Initial Benefits for the	Middle	-3	-11	-21	-2	-10	-20	*	*	*
Top 70 Percent of Earners	High	-4	-23	-38	-5	-24	-39	*	*	*
20										
Implement Progressive Price	Low	*	*	*	*	*	-1	*	*	*
Indexing of Initial Benefits for the	Middle	-2	-5	-11	-1	-5	-10	*	*	*
Top 50 Percent of Earners	High	-4	-21	-34	-5	-22	-37	*	*	*
21										
Index the Bend Points in the	Low	-2	-12	-21	-1	-8	-17	*	*	*
PIA Formula to Prices	Middle	-2	-11	-21	-1	-9	-19	*	*	*
	High	-3	-14	-23	-3	-14	-23	*	*	*

Continued

Table 3. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Benefit Formula (Continued)										
22										
Add an Additional Bend Point to the PIA Formula and Reduce the PIA Factors	Low	*	-1	-1	-1	-1	-2	*	*	*
	Middle	-6	-8	-11	-4	-9	-11	*	*	*
	High	-12	-27	-27	-13	-29	-30	*	*	*
23										
Increase the First Bend Point in the PIA Formula by 15 percent	Low	5	5	5	7	5	5	*	*	*
	Middle	4	5	5	5	5	4	*	*	*
	High	3	3	3	3	3	3	*	*	*
24										
Replace the Current PIA Formula With a New Two-Part Formula	Low	1	18	15	2	18	17	*	*	*
	Middle	-4	-6	-9	-3	-4	-6	*	*	*
	High	-6	-15	-15	-6	-13	-13	*	*	*
Raise the Full Retirement Age										
25										
Raise the FRA to 68	Low	-5	-8	-8	-2	-3	-3	*	*	*
	Middle	-5	-8	-8	-3	-4	-4	*	*	*
	High	-5	-8	-8	-4	-5	-5	*	*	*
26										
Raise the FRA to 70	Low	-6	-19	-19	-3	-10	-9	*	*	*
	Middle	-6	-19	-19	-4	-13	-13	*	*	*
	High	-6	-19	-19	-5	-16	-15	*	-1	-1
27										
Increase the FRA by One Month per Birth Year	Low	-3	-14	-23	-1	-7	-9	*	*	*
	Middle	-3	-14	-24	-2	-9	-14	*	*	*
	High	-3	-14	-23	-2	-11	-18	*	*	-1
28										
Increase the FRA and the EEA by One Month per Birth Year	Low	-3	-14	-23	-1	-5	-7	*	*	*
	Middle	-3	-14	-23	-2	-7	-10	*	*	*
	High	-3	-13	-21	-2	-9	-15	*	-1	-1

Continued

Table 3. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change Cost-of-Living Adjustments										
29										
Base COLAs on the Chained CPI-U	Low	-1	-1	-1	-3	-4	-4	*	*	*
	Middle	-1	-1	-1	-3	-4	-4	*	*	*
	High	-1	-1	-1	-4	-4	-4	*	*	*
30										
Base COLAs on the Chained CPI-U	Low	-1	-1	-1	-1	-1	-1	*	*	*
and Increase Benefits 20 Years After	Middle	-1	-1	-1	-2	-2	-2	*	*	*
Initial Eligibility	High	-1	-1	-1	-3	-3	-3	*	*	*
31										
Base COLAs on the CPI-E	Low	*	*	1	2	3	3	*	*	*
	Middle	1	*	*	2	3	3	*	*	*
	High	*	*	*	3	3	3	*	*	*
32										
Reduce COLAs for People With	Low	*	*	*	*	*	*	*	*	*
Higher PIAs	Middle	-1	*	*	-2	-1	-2	*	*	*
	High	-1	-1	-1	-4	-5	-5	*	*	*
Change Benefits for Specific Groups										
33										
Introduce a New Poverty-Related	Low	10	27	23	12	26	22	*	*	*
Minimum Benefit	Middle	1	2	1	1	2	1	*	*	*
	High	*	*	*	*	*	*	*	*	*
34										
Create an Alternative Benefit for	Low	0	0	0	2	1	1	*	*	*
Spouses of Deceased Workers	Middle	0	0	0	1	1	1	*	*	*
	High	0	0	0	*	*	*	*	*	*
35										
Limit the Survivors' Benefit	Low	0	0	0	*	*	*	*	*	*
	Middle	0	0	0	*	*	*	*	*	*
	High	0	0	0	-1	-1	-1	*	*	*

Continued

Table 3. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	10	12	18	30	36	38	12	12	12
	Middle	19	24	35	16	20	20	12	12	12
	High	27	36	52	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[e]								
Change Benefits for Specific Groups (Continued)										
36										
Reduce the Spousal Benefit	Low	0	0	0	-1	-2	-1	*	*	*
	Middle	0	0	0	*	-1	-1	*	*	*
	High	0	0	0	*	-1	-1	*	*	*

Source: Congressional Budget Office.

Notes: Scheduled benefits are benefits as calculated under the provisions of the Social Security Act, regardless of balances in the Social Security trust funds. For this analysis, CBO follows the common analytical convention of considering the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund as combined, even though legally they are separate.

Mean values are within a group.

Details of specific options are contained in the text; definitions of terms are in the glossary.

AIME = average indexed monthly earnings; COLA = cost-of-living adjustment; CPI-E = consumer price index for elderly consumers; CPI-U = consumer price index for all urban consumers; EEA = early eligibility age; FRA = full retirement age; PIA = primary insurance amount; * = between -0.5 percent and 0.5 percent.

a. The lowest, middle, and highest fifths of people within a 10-year birth cohort ranked by lifetime household earnings. The distribution of lifetime household earnings includes only people who live at least to age 45.

b. Initial annual benefits are computed for anyone who is eligible to claim retirement benefits at age 62 and who has not yet claimed any other Social Security benefits. All workers are assumed to claim benefits at age 65. All values are net of income taxes paid on benefits.

c. The present value of a person's lifetime benefits or payroll taxes as a percentage of the present value of his or her lifetime earnings. Lifetime Social Security benefits include all benefits except those received by young widows and children, which are excluded from this measure because there are insufficient data for years before 1984. Lifetime benefits are net of income taxes paid on those benefits. Payroll taxes consist of the employer's and employee's shares combined. To calculate present value, amounts are adjusted for inflation as measured by the price index for personal consumption expenditures (to produce constant dollars) and discounted to age 65.

d. "Current law" refers to current provisions of the Social Security Act for calculating benefits and payroll taxes. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Chapter 3, www.cbo.gov/publication/50250.

e. Each option's effect is measured as a percentage change from the current-law value. For example, under current law, the mean lifetime payroll tax relative to lifetime earnings for low earners born in the 2000s will be 12 percent. For Option 1, the 1 percentage-point increase in that ratio—from 12 percent to 13 percent—is expressed as an 8 percent increase in this table.

f. In this analysis, because total compensation remains fixed, changes to payroll taxes paid by the employer, which are considered part of total compensation, reduce cash wages. The reduction in cash wages results in lower payroll taxes and in decreased benefits.

Table 4.

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Taxation of Earnings										
1										
Increase the Payroll Tax Rate by	Low	10	8	8	7	8	8	2	6	8
1 Percentage Point[f]	Middle	11	8	8	9	8	8	2	6	8
	High	10	8	8	9	8	8	3	7	8
2										
Increase the Payroll Tax Rate by	Low	15	15	16	11	15	16	3	9	16
2 Percentage Points Over 10 Years[f]	Middle	15	15	15	16	16	16	3	11	16
	High	14	15	15	17	15	15	4	12	16
3										
Increase the Payroll Tax Rate by	Low	5	12	20	6	14	20	1	4	11
3 Percentage Points Over 60 Years[f]	Middle	5	12	19	9	17	22	1	5	13
	High	5	12	19	10	17	22	2	7	14
4										
Raise the Taxable Maximum to	Low	13	10	8	9	10	9	*	*	*
Cover 90 Percent of Earnings[f]	Middle	13	10	9	12	10	9	*	*	1
	High	17	23	24	20	25	27	12	27	32
5										
Raise the Taxable Maximum to	Low	13	14	14	10	13	14	*	*	*
Cover 90 Percent of Earnings;	Middle	14	14	14	14	15	15	*	*	1
Do Not Increase Benefits[f]	High	13	13	14	15	14	14	12	27	32
6										
Eliminate the Taxable Maximum[f]	Low	14	17	14	16	17	16	*	*	*
	Middle	15	17	15	22	18	16	*	*	1
	High	25	42	47	48	52	58	33	54	64
7										
Tax Covered Earnings Above the	Low	14	22	23	18	23	24	*	*	*
Taxable Maximum; Create a	Middle	14	22	22	25	24	24	*	*	1
Two-Component System for	High	18	30	33	36	35	38	33	54	64
Calculating the PIA[f]										

Continued

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Table 4. **Continued**

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Taxation of Earnings (Continued)										
8										
Tax Covered Earnings Above the Taxable Maximum; Do Not Increase Benefits[f]	Low	14	26	27	19	26	28	*	*	*
	Middle	14	25	27	27	28	29	*	*	1
	High	14	24	26	29	26	27	33	54	64
9										
Tax Covered Earnings Above the Taxable Maximum at 4 Percent; Do Not Increase Benefits[f]	Low	9	9	9	6	8	9	*	*	*
	Middle	9	9	9	9	9	9	*	*	*
	High	9	8	9	9	9	9	11	17	21
10										
Tax Covered Earnings Above $250,000 at 4 Percent; Do Not Increase Benefits[f]	Low	5	5	5	3	4	5	*	*	*
	Middle	5	5	5	5	5	5	*	*	*
	High	5	4	5	5	5	5	7	10	11
Change the Benefit Formula										
11										
Raise From 35 to 40 the Years of Earnings Included in the AIME	Low	-4	-6	-4	-1	-1	*	*	*	*
	Middle	-4	-5	-4	-1	-1	-1	*	*	*
	High	-2	-3	-2	*	*	*	*	*	*
12										
Index Earnings in the AIME Formula to Prices	Low	*	-5	-11	1	*	-4	*	*	*
	Middle	*	-5	-7	1	-1	-3	*	*	*
	High	*	-4	-3	1	1	1	*	*	*
13										
Apply the Social Security Benefit Formula to Individual Years of Earnings	Low	-6	-11	-10	-3	-5	-5	*	*	*
	Middle	-2	-3	-2	*	*	*	*	*	*
	High	-1	-2	*	1	1	2	*	*	*
14										
Reduce All PIA Factors by 15 Percent	Low	-5	-5	-1	1	-1	-1	*	*	*
	Middle	-5	-5	-1	1	-2	*	*	*	*
	High	-5	-5	-1	1	-2	-1	*	*	*

Continued

Table 4. **Continued**

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Benefit Formula (Continued)										
15										
Reduce the Top PIA Factor to	Low	*	1	2	*	1	2	*	*	*
10 Percent	Middle	*	1	2	1	1	2	*	*	*
	High	-1	-2	-2	-1	-3	-3	*	*	*
16										
Reduce All PIA Factors by	Low	-2	-6	-7	1	1	*	*	*	*
0.5 Percent Annually	Middle	-2	-6	-7	1	*	*	*	*	*
	High	-1	-6	-7	2	*	-1	*	*	*
17										
Index Initial Benefits to	Low	-1	-7	-10	*	*	2	*	*	*
Changes in Longevity	Middle	-1	-7	-9	*	*	*	*	*	*
	High	-1	-7	-9	*	-2	-4	*	*	*
18										
Implement Pure Price	Low	-4	-17	-21	3	*	-10	*	*	*
Indexing of Initial Benefits	Middle	-4	-17	-20	4	-1	-13	*	*	*
	High	-4	-17	-21	4	-3	-17	*	*	*
19										
Implement Progressive Price	Low	*	8	22	2	11	22	*	*	*
Indexing of Initial Benefits for the	Middle	-2	-5	-3	2	4	4	*	*	*
Top 70 Percent of Earners	High	-3	-17	-24	*	-11	-20	*	*	*
20										
Implement Progressive Price	Low	*	6	17	2	8	17	*	*	*
Indexing of Initial Benefits for the	Middle	-1	*	4	2	6	9	*	*	*
Top 50 Percent of Earners	High	-3	-16	-24	-1	-13	-23	*	*	*
21										
Index the Bend Points in the	Low	-1	-6	-7	1	2	1	*	*	*
PIA Formula to Prices	Middle	-1	-5	-7	2	2	2	*	*	*
	High	-2	-9	-10	1	-2	-2	*	*	*

Continued

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Table 4. **Continued**

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change the Benefit Formula (Continued)										
22										
Add an Additional Bend Point to the	Low	1	12	19	4	12	16	*	*	*
PIA Formula and Reduce the PIA	Middle	-4	3	7	2	6	7	*	*	*
Factors	High	-10	-17	-13	-6	-17	-16	*	*	*
23										
Increase the First Bend Point in the	Low	-5	*	1	2	1	1	*	*	*
PIA Formula by 15 percent	Middle	-6	*	*	-1	*	*	*	*	*
	High	-7	-1	-1	-3	-1	-1	*	*	*
24										
Replace the Current PIA Formula	Low	2	23	22	3	23	24	*	*	*
With a New Two-Part Formula	Middle	-3	-2	-3	*	1	*	*	*	*
	High	-5	-11	-10	-3	-8	-8	*	*	*
Raise the Full Retirement Age										
25										
Raise the FRA to 68	Low	-4	-4	-4	*	*	1	*	*	*
	Middle	-4	-4	-4	*	*	*	*	*	*
	High	-4	-4	-3	-1	-1	-1	*	*	*
26										
Raise the FRA to 70	Low	-4	-11	-8	1	-1	3	*	*	*
	Middle	-4	-11	-9	1	-2	*	*	*	*
	High	-4	-11	-8	1	-5	-4	*	-1	-1
27										
Increase the FRA by One Month per	Low	-2	-9	-14	1	*	4	*	*	*
Birth Year	Middle	-2	-9	-14	1	*	1	*	*	*
	High	-2	-9	-14	1	-2	-3	*	-1	-1
28										
Increase the FRA and the EEA by	Low	-2	-8	-15	1	2	5	*	*	*
One Month per Birth Year	Middle	-2	-9	-14	1	2	3	*	*	*
	High	-2	-8	-13	2	-1	-3	*	-1	-1

Continued

Table 4. **Continued**

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
		Current Law[d]								
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change Cost-of-Living Adjustments										
29										
Base COLAs on the Chained CPI-U	Low	2	3	3	*	*	*	*	*	*
	Middle	2	3	3	*	*	*	*	*	*
	High	2	3	3	-1	*	*	*	*	*
30										
Base COLAs on the Chained CPI-U	Low	1	2	2	1	1	1	*	*	*
and Increase Benefits 20 Years	Middle	1	2	2	*	*	*	*	*	*
After Initial Eligibility	High	1	2	2	-1	-1	-1	*	*	*
31										
Base COLAs on the CPI-E	Low	-1	-2	-2	*	*	*	*	*	*
	Middle	-1	-2	-2	*	*	*	*	*	*
	High	-1	-2	-2	*	*	*	*	*	*
32										
Reduce COLAs for People With	Low	2	3	3	1	2	3	*	*	*
Higher PIAs	Middle	1	2	2	*	2	1	*	*	*
	High	1	1	2	-2	-2	-2	*	*	*
Change Benefits for Specific Groups										
33										
Introduce a New Poverty-Related	Low	3	22	19	8	21	18	*	*	*
Minimum Benefit	Middle	-5	-1	-2	-3	-2	-2	*	*	*
	High	-6	-3	-3	-4	-3	-3	*	*	*
34										
Create an Alternative Benefit for	Low	-2	-1	-1	1	1	*	*	*	*
Spouses of Deceased Workers	Middle	-2	-1	-1	*	*	*	*	*	*
	High	-2	-1	-1	-1	-1	-1	*	*	*
35										
Limit the Survivors' Benefit	Low	*	*	1	*	*	*	*	*	*
	Middle	*	*	1	*	*	*	*	*	*
	High	*	*	1	-1	-1	-1	*	*	*

Continued

Table 4. **Continued**

Changes to Social Security's Payable Benefits and Payroll Taxes for Different Groups Under Various Options

	Lifetime Household Earnings Quintile[a]	Mean Initial Benefits for Retired Workers by 10-Year Birth Cohort[b]			Mean Lifetime Benefits Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for Retired Workers by 10-Year Birth Cohort[c]		
		1960	1980	2000	1960	1980	2000	1960	1980	2000
					Current Law[d]					
		(Thousands of 2015 dollars)			(Percent)			(Percent)		
	Low	9	10	14	24	27	26	12	12	12
	Middle	17	17	25	12	14	14	12	12	12
	High	24	28	39	5	5	5	7	7	7
		Percentage Change From Outcome Under Current Law[e]								
Change Benefits for Specific Groups (Continued)										
36										
Reduce the Spousal Benefit	Low	*	1	1	*	-1	-1	*	*	*
	Middle	*	1	1	*	*	*	*	*	*
	High	*	1	1	*	*	*	*	*	*

Source: Congressional Budget Office.

Notes: Payable benefits are benefits as calculated under the provisions of the Social Security Act, reduced as necessary to ensure that outlays do not exceed the Social Security system's revenues once the balances in the Social Security trust funds are exhausted. 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 be permitted to pay full benefits when they were due. In the years after a trust fund was exhausted, annual outlays therefore would be limited to annual revenues. For this analysis, CBO follows the common analytical convention of considering the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund as combined, even though legally they are separate. In CBO's projections of outlays with payable benefits, benefits are reduced under both programs when the combined trust funds are exhausted.

Mean values are within a group.

Details of specific options are contained in the text; definitions of terms are in the glossary.

AIME = average indexed monthly earnings; COLA = cost-of-living adjustment; CPI-E = consumer price index for elderly consumers; CPI-U = consumer price index for all urban consumers; EEA = early eligibility age; FRA = full retirement age; PIA = primary insurance amount; * = between -0.5 percent and 0.5 percent.

a. The lowest, middle, and highest fifths of people within a 10-year birth cohort ranked by lifetime household earnings. The distribution of lifetime household earnings includes only people who live at least to age 45.

b. Initial annual benefits are computed for people who are eligible to claim retirement benefits at age 62 and who have not yet claimed any other Social Security benefits. All workers are assumed to claim benefits at age 65. All amounts are net of income taxes paid on benefits.

c. The present value of a person's lifetime benefits or payroll taxes as a percentage of the present value of his or her lifetime earnings. Lifetime Social Security benefits include all benefits except those received by young widows and children, which are excluded from this measure because there are insufficient data for years before 1984. Lifetime benefits are net of income taxes paid on those benefits. Payroll taxes consist of the employer's and employee's shares combined. To calculate present value, amounts are adjusted for inflation as measured by the price index for personal consumption expenditures (to produce constant dollars) and discounted to age 65.

d. "Current law" refers to current provisions of the Social Security Act for calculating benefits and payroll taxes. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Chapter 3, www.cbo.gov/publication/50250.

e. Each option's effect is measured as a percentage change from the current-law value. For example, under current law, the mean lifetime payroll tax relative to lifetime earnings for low earners born in the 2000s will be 12 percent. For Option 1, the 1 percentage-point increase in that ratio—from 12 percent to 13 percent—is expressed as an 8 percent increase in this table.

f. In this analysis, because total compensation remains fixed, changes to payroll taxes paid by the employer, which are considered part of total compensation, reduce cash wages. The reduction in cash wages results in lower payroll taxes and in decreased benefits.

Options That Would Change the Taxation of Earnings

The Social Security payroll tax is currently collected at the rate of 12.4 percent of a worker's earnings below the taxable maximum—now $118,500. Workers and their employers each pay half; self-employed people pay the entire amount.

The options in this section would boost Social Security's revenues beginning in 2016 by changing the payroll tax rate or the taxable maximum. Increases in payroll tax revenues would be credited in the same proportion that they are under current law to the two trust funds that finance the Social Security programs; in most years, about 85 percent of payroll tax revenues goes to the Old-Age and Survivors Insurance Trust Fund and 15 percent goes to the Disability Insurance Trust Fund.[60] Because all of these options would increase revenues, payable OASI and DI benefits would be greater under these options than they are under current law. Payable benefits are benefits as calculated under current law, reduced as necessary to ensure that outlays do not exceed the Social Security system's revenues once the balances in the Social Security trust funds are exhausted.

Some options would increase both the taxable maximum and the amount of earnings used in the computation of benefits. As a result, benefits and taxes paid on benefits would increase directly, as would revenues from payroll taxes. For other options, although the taxable maximum would increase, benefits would continue to be calculated on the basis of the current-law taxable maximum. Such options—along with those that would increase the payroll tax rate—would not affect benefits directly. However, in this analysis, total compensation is assumed to remain fixed, so changes to payroll taxes paid by the employer, which are considered part of total compensation, reduce cash wages. That reduction in cash wages would decrease benefits and payroll taxes.

For the options that increase payroll taxes, the increase in payable lifetime benefits relative to lifetime earnings would be smaller for low earners because they are more likely to receive DI benefits and they will receive a significant proportion of those benefits before the combined trust funds' projected exhaustion in 2029.

See Table 2 on page 23 for effects of the options on Social Security's finances, Table 3 on page 30 for effects on distributional outcomes under the assumption that scheduled benefits are paid, and Table 4 on page 36 for effects on distributional outcomes under the assumption that only payable benefits are paid.

Option 1: Increase the Payroll Tax Rate by 1 Percentage Point

Starting in 2016, this option would raise the payroll tax rate by 1 percentage point, from 12.4 percent to 13.4 percent. As under current law, workers and their employers would each pay half (6.7 percent of taxable earnings); self-employed people would pay the entire amount.

Under Option 1, Social Security's total revenues, measured as a share of GDP, would increase immediately by 0.3 percentage points—or by about 8 percent relative to the outcome under current law—and that difference would remain roughly constant throughout the period. Option 1 would improve the 75-year actuarial balance, measured as a share of GDP, by 0.3 percentage points (about a 20 percent improvement) and extend the projected date of the combined OASDI trust funds' exhaustion by three years—to 2032. In 2033, the reduction in benefits necessary to make outlays equal revenues would be 19 percent smaller than would be required under current law because payroll tax revenues would be higher.

Under this option, the percentage increase in lifetime payroll taxes paid relative to lifetime earnings would be similar for people in all categories of lifetime earnings within the same birth cohort. That ratio would increase by an average of 3 percent or less for people born in the 1960s and by 8 percent or less for those born in the 1980s or 2000s.

Scheduled benefits relative to lifetime earnings would not be significantly different than under current law, but payable benefits relative to lifetime earnings would be boosted by the additional revenues. As a result, payable lifetime benefits relative to lifetime earnings would increase by between 7 percent and 9 percent for the 1960s, 1980s, and 2000s birth cohorts.

60. From 2016 through 2018, as a result of the reallocation of the payroll tax rate specified in the Bipartisan Budget Act of 2015, 81 percent (10.03 percentage points) of Social Security's payroll tax revenues will be credited to the OASI trust fund, and 19 percent (2.37 percentage points) will go to the DI trust fund.

Option 2: Increase the Payroll Tax Rate by 2 Percentage Points Over 10 Years

This option would raise the combined payroll tax rate to 14.4 percent—7.2 percent each for employers and employees—which is 2 percentage points higher than the current-law tax rate of 12.4 percent. Starting in 2016, the combined payroll tax rate would increase gradually, by 0.2 percentage points a year, until it reached 14.4 percent in 2025; it would remain at that level thereafter.

Under this option, Social Security revenues, measured as a share of GDP, would increase by 0.6 percentage points in 2040—or by about 14 percent relative to the outcome under current law. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.6 percentage points (about a 40 percent improvement) and would extend the combined trust funds' exhaustion date by five years—to 2034. In 2035, the reduction in benefits necessary to make outlays equal revenues would be 35 percent smaller than would be required under current law because payroll tax revenues would be higher.

Lifetime payroll taxes relative to lifetime earnings under this option would increase by 4 percent or less for people born in the 1960s. For people born in the 1980s, that ratio would increase by 9 percent for low earners and by 12 percent for high earners. For those born in the 2000s it would increase by 16 percent for people in all categories of lifetime earnings.

Scheduled lifetime benefits relative to lifetime earnings would be about the same as under current law, but the additional revenues would increase payable lifetime benefits relative to lifetime earnings. That ratio would increase by 11 percent for low earners in the 1960s birth cohort, and it would increase by 15 percent to 17 percent for all other groups.

Option 3: Increase the Payroll Tax Rate by 3 Percentage Points Over 60 Years

Under this option, the combined payroll tax rate would increase by 0.05 percentage points every year from 2016 to 2075, reaching 15.4 percent at the end of that period, which is 3 percentage points higher than the current rate of 12.4 percent. Employers and employees would pay equal shares, and self-employed people would pay the entire amount. This option is similar to Option 2, except that the tax increase would be implemented more gradually and ultimately the tax rate would be higher. Under both options, the tax rate would be 14.4 percent in 2055. Before that, it would be higher under Option 2, and in later years, it would be higher under this option.

This option would increase Social Security's revenues, measured as a share of GDP, by 0.4 percentage points relative to what it would be under current law, or by about 9 percent, in 2040. In 2075 and beyond, revenues would be about 20 percent higher than under current law. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 40 percent improvement). Even though it would not significantly extend the combined trust funds' exhaustion date, the reduction in benefits necessary to make outlays equal revenues in 2031 would be 15 percent smaller than under current law because payroll tax revenues would be higher.

For people in all categories of lifetime earnings who were born in the 1960s, lifetime payroll taxes relative to lifetime earnings under this option would increase by a small amount. That ratio for people born in the 1980s would increase by 4 percent for low earners and 7 percent for high earners; those increases would be at least twice as large, on average, for people born in the 2000s.

Scheduled lifetime benefits relative to lifetime earnings would not be significantly different than under current law, but the additional revenues would increase payable lifetime benefits relative to lifetime earnings. That ratio would increase by between 6 percent and 10 percent for people born in the 1960s, by 14 percent to 17 percent for people born in the 1980s, and by 20 percent to 22 percent for people born in the 2000s.

Option 4: Raise the Taxable Maximum to Cover 90 Percent of Earnings

Over a 10-year period, this option would raise the taxable maximum faster than would be anticipated under current law. Beginning in 2016, the amount would increase by about 13 percent per year (instead of increasing to keep pace with average wages, as under current law). By 2025, the taxable maximum would be $319,900 (in 2015 dollars)—more than double CBO's current-law estimate for that year—and 90 percent of total earnings from employment covered by Social Security would be below that amount (compared with 79 percent projected under current law). The additional earnings subject to the payroll tax would be used in benefit calculations. After 2025, the taxable maximum would increase to keep pace with

average wages and the amount of earnings below the taxable maximum would be roughly stable.[61]

Under Option 4, Social Security's total revenues, measured as a share of GDP, would increase by 0.6 percentage points in 2040—or by 13 percent compared with what would occur under current law. (Almost all of the increase in revenues is attributable to higher payroll taxes. Only a small portion—about 1 percent—would come from the taxation of benefits.) Total outlays as a share of GDP would increase by 0.1 percentage point in 2040, or by 2 percent, and by more in subsequent years. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.3 percentage points (about a 20 percent improvement) and would extend the combined trust funds' projected exhaustion date by four years—to 2033. In 2034, the reduction in benefits required to make outlays equal revenues would be 27 percent smaller than under current law because payroll tax revenues would be higher.

This option would increase lifetime payroll taxes relative to lifetime earnings for high earners—by 12 percent for those born in the 1960s and by 32 percent for those born in the 2000s. Their scheduled lifetime benefits relative to lifetime earnings would also increase, but by a smaller percentage. That ratio would not differ significantly for low earners or for people in the middle of the earnings distribution.

Payable lifetime benefits relative to lifetime earnings would be boosted by the additional revenues. That ratio would increase for people in all income categories—by 9 percent or 10 percent for low earners and by 20 percent to 27 percent for high earners in the various birth cohorts. For high earners born in the 1980s or 2000s, those percentage increases would be smaller than the increases in their lifetime payroll taxes relative to lifetime earnings.

Option 5: Raise the Taxable Maximum to Cover 90 Percent of Earnings; Do Not Increase Benefits

As in Option 4, over a 10-year period, this option would raise the taxable maximum faster than would be anticipated under current law. Beginning in 2016, the amount would increase by about 13 percent per year (instead of increasing to keep pace with average wages, as under current law). By 2025, the taxable maximum would be $319,900 (in 2015 dollars)—more than double CBO's current-law estimate for that year—and 90 percent of total earnings from employment covered by Social Security would be below that amount. After 2025, the taxable maximum would increase to keep pace with average wages and the amount of earnings below the taxable maximum would be roughly stable. However, unlike in Option 4, the additional earnings subject to the payroll tax would not be included in benefit calculations. This option would therefore have no direct effect on scheduled benefits.

Under this option, Social Security's total revenues, measured as a share of GDP, would increase by 0.6 percentage points in 2040—or by about 13 percent compared with what would occur under current law; total outlays would remain roughly the same as they would be under current law. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 40 percent improvement) and would extend the combined trust funds' projected exhaustion date by four years—to 2033. In 2034, the reduction in benefits required to make outlays equal revenues would be 32 percent smaller than under current law because payroll tax revenues would be higher.

Under this option, the increase in lifetime payroll taxes relative to lifetime earnings would be the same as in Option 4—12 percent for high earners born in the 1960s and 32 percent for high earners born in the 2000s—but there would be no direct effects on lifetime scheduled benefits relative to lifetime earnings.

Payable lifetime benefits relative to lifetime earnings would be greater than those under Option 4 for low earners and for people in the middle of the earnings distribution, but much smaller for high earners. That ratio would increase by between 10 percent and 15 percent for people in all categories of lifetime earnings born in the 1960s, 1980s, or 2000s.

Option 6: Eliminate the Taxable Maximum

Under this option, after a 10-year phase-in period, all covered earnings would be taxed at the current rate of 12.4 percent; employers and employees would continue to pay equal shares, and self-employed people would pay the full amount of the payroll tax. The rate for covered

61. For a discussion of similar options, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 39, www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 143–144, www.cbo.gov/budget-options/2013/44687.

earnings above the current-law taxable maximum (now $118,500) would rise gradually, from 1.24 percent in 2016 to 12.4 percent in 2025 and later. The additional taxable earnings would be included in benefit computations, resulting in larger benefits for higher-earning workers who were subject to the additional tax. During the phase-in period, the additional earnings credited to those workers would reflect the relative increase in the tax rate for covered earnings above the current-law maximum. In 2016, for example, the tax rate for such earnings would be 1.24 percent, or 10 percent of the full tax rate of 12.4 percent. Therefore, benefit calculations for workers with earnings above the taxable maximum in 2016 would include all of those workers' earnings below the current-law taxable maximum plus 10 percent of their earnings above the taxable maximum in that year.

Option 6 would increase Social Security's total revenues, measured as a share of GDP, by 1.1 percentage points in 2040—or by 25 percent relative to what they would be under current law—and outlays as a share of GDP would increase by 0.3 percentage points, or by 5 percent, with further increases in subsequent years. (Almost all of the projected increase in revenues is attributable to higher payroll taxes. Only a small portion—about 1 percent—would come from the taxation of benefits.) The option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.6 percentage points (about a 40 percent improvement) and extend the combined trust funds' exhaustion date by a decade—to 2039. In 2040, the reduction in benefits required to make outlays equal to revenues would be 47 percent smaller than under current law because payroll tax revenues would be higher.

This option would sharply increase lifetime payroll taxes relative to lifetime earnings for high earners—by 32 percent, 54 percent, and 64 percent for those in the 1960s, 1980s, and 2000s birth cohorts, respectively. The increase would be even greater for people with a significant portion of their earnings above the taxable maximum. The increase in scheduled lifetime benefits relative to lifetime earnings for the highest earners would be much larger than under Option 4, but in percentage terms, the increase in benefits would remain smaller than the increase in lifetime payroll taxes relative to lifetime earnings for that group.

Payable lifetime benefits relative to lifetime earnings for high earners would increase by 48 percent to 58 percent; for people born in the 1960s, that percentage increase would be greater than the percentage increase in lifetime payroll taxes relative to lifetime earnings. Low earners and people in the middle of the earnings distribution would see little change in their lifetime payroll taxes, but their payable lifetime benefits relative to lifetime earnings would increase by 16 percent to 22 percent.

Option 7: Tax Covered Earnings Above the Taxable Maximum; Create a Two-Component System for Calculating the PIA

Like Option 6, after a 10-year phase-in period, this option would assess a 12.4 percent tax on all of a worker's earnings—even those above the current-law taxable maximum—that are covered under Social Security. Payment of the tax, as under current law, would be split evenly between employers and employees; self-employed workers would pay the full amount. The rate for covered earnings above the current-law taxable maximum (now $118,500) would rise gradually, from 1.24 percent in 2016 to 12.4 percent in 2025 and later. The additional taxable earnings would be included in benefit computations, resulting in larger benefits for higher-earning workers who were subject to the additional tax. During the phase-in period, the additional earnings credited to those workers would reflect the relative increase in the tax rate for covered earnings above the current-law maximum. In 2016, for example, the tax rate for such earnings would be 1.24 percent, or 10 percent of the full tax rate of 12.4 percent. Unlike Option 6, however, the formula for determining the primary insurance amount under this option would have two components: The first would account for the portion of a worker's earnings in any year that is below the current-law taxable maximum, and the second would account for the portion above that amount.

The first component of the worker's PIA would be calculated with the same method used to calculate the current-law PIA: All earnings would be indexed to average wages. For the 35 years with the highest earnings, the portion of wage-indexed earnings *below* the current-law taxable maximum would be summed. That amount would be divided by 420 (the number of months over the 35-year period), and the result would be the worker's basic average indexed monthly earnings. Under this option, the worker's first PIA component would be calculated by applying that "basic-AIME" to the current-law PIA formula, which has three PIA factors—90 percent, 32 percent, and 15 percent.

The second component of the worker's PIA would be calculated as follows: For the 35 years with the highest

earnings, the portion of wage-indexed earnings *above* the current-law taxable maximum would be summed and divided by 420 to yield the "surplus-AIME."[62] The second PIA component would be calculated by multiplying the surplus-AIME by 5 percent. The worker's PIA under this option would be the sum of the first and second PIA components—effectively, his or her current-law PIA plus 5 percent of the surplus-AIME (see Figure 6).

This surplus-AIME option is different from, although commonly confused with, a policy that would tax all covered earnings, add a third bend point to the PIA formula set at the AIME for a worker with 35 years of earnings at the taxable maximum, and apply a 5 percent PIA factor to the portion of the AIME that is above that bend point. The key difference is demonstrated by the effect on a worker's PIA of a year of earnings that is higher than the taxable maximum. Under the policy with a third bend point, the 5 percent PIA factor would not apply unless the average of the worker's highest 35 years of earnings exceeded the taxable maximum. By contrast, under the surplus-AIME option, the 5 percent PIA factor would always apply to years with earnings above the taxable maximum.

Under this option, Social Security's total revenues, measured as a share of GDP, would increase by 1.1 percentage points in 2040—or by 24 percent relative to the outcome under current law—and outlays as a share of GDP would increase by 0.1 percentage point, with further increases in subsequent years. (Almost all of the increase in revenues is attributable to higher payroll taxes. Only a small portion—less than 1 percent—would come from the taxation of benefits.) This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.9 percentage points (a 60 percent improvement) and extend the combined trust funds' exhaustion date by more than a decade—to 2042. In 2043, the reduction in benefits required to make outlays equal revenues would be 59 percent smaller than that under current law because payroll tax revenues would be higher.

62. The surplus-AIME also has been called the AIME+ (or AIME-plus). See Social Security Administration, Actuarial Publications, "Letter to Representative John Larson containing estimates of the financial effects on Social Security of the 'Social Security 2100 Act,' legislation introduced on July 31, 2014, by Representative John Larson" (July 31, 2014), www.socialsecurity.gov/OACT/solvency/index.html.

Under this option, the increases in lifetime payroll taxes relative to lifetime earnings would be about the same as those under Option 6—33 percent, 54 percent, and 64 percent—for high earners in the 1960s, 1980s, and 2000s birth cohorts, respectively. The increase would be even greater for people with a significant portion of their earnings above the taxable maximum. The increase in lifetime scheduled benefits relative to lifetime earnings for high earners, however, would be significantly smaller than those under Option 6. That ratio would not be significantly different for low earners or for people in the middle of the earnings distribution.

Payable benefits relative to lifetime earnings would be boosted by the additional revenues. That ratio for low earners and for people in the middle of the earnings distribution would increase by an amount between 18 percent and 25 percent—more than under Option 6. For all high earners, that ratio would increase by at least 35 percent, still less than the percentage increase in lifetime payroll taxes relative to lifetime earnings for high earners born in the 1980s and 2000s.

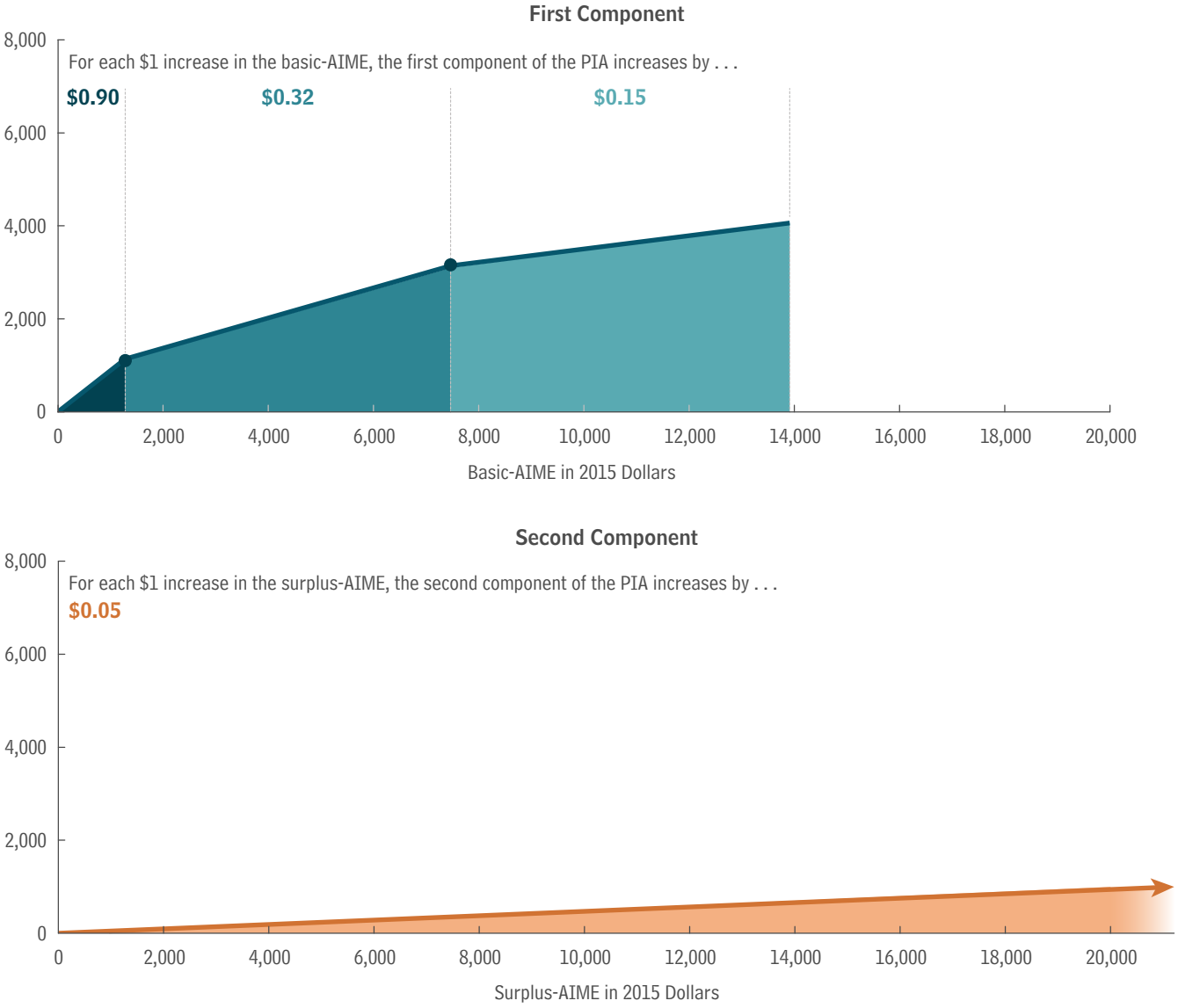
Option 8: Tax Covered Earnings Above the Taxable Maximum; Do Not Increase Benefits

Like Option 6 and Option 7, after a 10-year phase-in period, this option would assess a 12.4 percent tax on all of a worker's earnings—even those above the current-law taxable maximum—that are covered under Social Security. Payment of the tax, as under current law, would be split evenly between employers and employees; self-employed workers would pay the full amount. The rate for covered earnings above the current-law taxable maximum (now $118,500) would rise gradually, from 1.24 percent in 2016 to 12.4 percent in 2025 and later. Unlike the two previous options, however, earnings above the current-law taxable maximum would not be included in the benefit calculation. This option would therefore have no direct effect on scheduled benefits.

Under this option, Social Security's total revenues measured as a share of GDP would increase by 1.1 percentage points in 2040—or by about 24 percent relative to current law. Option 8 would improve the 75-year actuarial balance, considered as a share of GDP, by 1.0 percentage point (a 70 percent improvement)—the largest improvement among the options in this report for changing the taxation of earnings. The option would extend the combined trust funds' exhaustion date by more than a decade—to 2043. In 2044, the reduction in benefits

Figure 6.

Calculating the PIA in 2040 Using the Basic-AIME and the Surplus-AIME (Option 7)



Source: Congressional Budget Office.

Notes: The PIA is the sum of two components. The first component, the basic-AIME (top panel), involves three PIA factors (which determine the percentage of the basic-AIME that is replaced in the PIA formula) and two bend points (denoted by dots on the line, showing the thresholds at which the PIA factor changes). The calculation of the first component is the same as the current-law PIA calculation. In 2040, for newly eligible beneficiaries, the first component is calculated as 90 percent of the first $1,240 of the basic-AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent of the basic-AIME between $1,240 and $7,480, plus 15 percent of the basic-AIME above $7,480.

If a person born in 1978 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2040, that person's basic-AIME would be $13,910, the maximum.

The second component, the surplus-AIME (bottom panel), is calculated from the portion of a worker's wage-indexed earnings above the current-law taxable maximum; it has a single PIA factor of 5 percent.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

required to make outlays equal revenues would be 67 percent smaller than under current law because payroll tax revenues would be higher.

Under this option, the increases in lifetime payroll taxes relative to lifetime earnings would be about the same as those under Option 6 and Option 7—33 percent, 54 percent, and 64 percent for high earners in the 1960s, 1980s, and 2000s birth cohorts, respectively. The increase would be greater for people with a significant portion of their earnings above the taxable maximum. But, unlike the two previous options, there would be no significant effects on scheduled benefits.

Payable benefits relative to lifetime earnings would be boosted by the additional revenues. For people born in the 1960s that ratio would increase by 19 percent for low earners and by 29 percent for high earners. For people in all categories of lifetime earnings born in the 1980s or 2000s, that ratio would be at least 26 percent higher than under current law.

Option 9: Tax Covered Earnings Above the Taxable Maximum at 4 Percent; Do Not Increase Benefits

Under this option, covered earnings above the taxable maximum would be taxed at 4 percent, but the increase would be phased in over 10 years. Starting in 2016, those earnings would be taxed at 0.4 percent, and that rate would increase annually by 0.4 percentage points until it stabilized at 4 percent in 2025. As is currently the case, employers and employees would each pay half of the total tax; self-employed people would pay the entire amount. Because the current-law taxable maximum would still be used in benefit calculations, this option would have no direct effect on scheduled benefits. This option is similar to Option 8, but the payroll tax rate above the taxable maximum would be substantially lower, as would be the financial effects on the trust funds.

Under Option 9, Social Security's total revenues, measured as a share of GDP, would increase by 0.3 percentage points in 2040—or by about 8 percent relative to current law. The option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.3 percentage points (about a 20 percent improvement). Even though this option would not significantly extend the combined trust funds' exhaustion date, the reduction in benefits required to make outlays equal revenues in 2032 would be 21 percent smaller than under current law because payroll tax revenues would be higher.

For high earners who were born in the 1960s, lifetime payroll taxes relative to lifetime earnings would increase by about 11 percent, on average; high earners born in the 2000s would see that ratio increase by about 21 percent. The increase would be even greater for people with a significant portion of their earnings above the taxable maximum.

Scheduled benefits relative to lifetime earnings would not be significantly different than under current law, but payable benefits relative to lifetime earnings would be boosted by the additional revenues. That ratio would increase by 6 percent to 9 percent for people in all categories of lifetime earnings born in the 1960s or later.

Option 10: Tax Covered Earnings Above $250,000 at 4 Percent; Do Not Increase Benefits

Like Option 9, this option would institute a 4 percent tax on high earners, but the tax would apply only to covered earnings above $250,000. (Earnings between the taxable maximum and $250,000 would be exempt from the Social Security payroll tax.) Starting in 2016, those earnings would be taxed at 0.4 percent, and that rate would increase annually by 0.4 percentage points until it stabilized at 4 percent in 2025. In 2016, the tax would apply to less than 2 percent of people with earnings. After that, the threshold would rise at the rate of average wage growth. The current-law taxable maximum would still be used for calculating benefits, so this option would have no direct effect on scheduled benefits.

Under this option, Social Security's total revenues, measured as a share of GDP, would rise by 0.2 percentage points in 2040—or by about 4 percent relative to the outcome under current law. Option 10 would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent improvement). Even though this option would not significantly extend the combined trust funds' exhaustion date, in 2031 the reduction in benefits required to make outlays equal revenues would be 12 percent smaller than under current law because payroll tax revenues would be higher.

Under this option, lifetime payroll taxes relative to lifetime earnings for high earners born in the 1960s or later would increase by 7 percent to 11 percent. The increase would be greater for people with earnings significantly above the threshold to which the 4 percent tax was applied.

Scheduled benefits relative to lifetime earnings would not be significantly different than under current law, but payable benefits relative to lifetime earnings would be boosted by the additional revenues. That ratio would be 3 percent to 5 percent higher than under current law for people in all categories of lifetime earnings who were born in the 1960s or later.

Options That Would Change the Benefit Formula

The methods used to calculate earnings histories for Social Security and to translate those amounts into initial monthly benefits could be changed in many ways. Most of the options in this section would make a single change to the benefit formula. Options that would reduce initial retired-worker benefits are assumed to take effect for people who were born in 1961 (who will reach 62, the early eligibility age, in 2023) and for workers who will claim disability benefits in 2023 or later, regardless of their birth year. Options that would increase benefits are assumed to take effect in 2016.

In addition to their effects on outlays, all of the options in this section would produce small effects on revenues that are included in the estimates. Changes in benefits would alter the amounts collected in income taxes paid on those benefits and, possibly, the age at which beneficiaries chose to stop working, which would affect payroll tax receipts.

See Table 2 on page 23 for the effects of the options on Social Security finances, Table 3 on page 30 for effects on distributional outcomes under the assumption that scheduled benefits are paid, and Table 4 on page 36 for effects on distributional outcomes under the assumption that only payable benefits are paid.

Option 11: Raise From 35 to 40 the Years of Earnings Included in the AIME

This option would lengthen the period for the calculation of average indexed monthly earnings by five years, phased in from 2023 to 2027. Beginning in 2023, the calculation would take the average of the 36 years of indexed monthly earnings that were the highest, with an additional year added to the calculation until 2027; by then, the AIME calculation would include the 40 years with the highest earnings. The new calculation would apply only to newly eligible retired workers, so there would be no effect on DI beneficiaries.[63] Under this option, all else being equal, almost all workers' initial benefits would be lower than under current law because earnings in the additional years included in the AIME calculation would almost always be lower than those that are counted now.

This option would reduce Social Security's total outlays, measured as a share of GDP, by 0.1 percentage point in 2040—or by 2 percent relative to currently scheduled outlays. It would improve the 75-year actuarial balance, considered as a share of GDP, by 0.1 percentage point (about a 10 percent improvement). This option would not significantly extend the combined OASDI trust funds' exhaustion date beyond the currently projected 2029.

This option would reduce scheduled initial benefits for retired workers born in the 1960s by 5 percent for low earners and by 3 percent for high earners. The reduction in such benefits would be somewhat larger for people born in the 1980s and 2000s than for those in earlier birth cohorts because the younger workers would become eligible to claim retired-worker benefits after the option's phase-in period. This option would have the largest effect on people who worked for fewer than 40 years—they would have years with no earnings included in the calculation of benefits. However, it would also reduce benefits for almost all people who worked for 40 years or more. Payable lifetime benefits relative to lifetime earnings would decrease only slightly.

Option 12: Index Earnings in the AIME Formula to Prices

Under this option, as part of the computation of a retired or disabled worker's average indexed monthly earnings, past earnings would be indexed to the growth in prices through the year that is two years before a person becomes eligible for benefits (under current law, earnings are indexed to the growth in average wages). Because prices increase more slowly than wages, under this option, workers' AIMEs would be lower than under current law. This option would not change the formula for calculating the primary insurance amount, and as a result, initial benefits would be lower than those calculated under current law. This option would apply to earnings

63. For a more detailed analysis of a similar option, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 13, www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), p. 42, www.cbo.gov/budget-options/2013/44687.

after 2023 for newly eligible retired and disabled workers.[64] The method of indexing in this option is not the same as pure price indexing, which is the subject of Option 18, or progressive price indexing, which is discussed in Option 19 and Option 20.

This option would not significantly reduce Social Security's outlays as a percentage of GDP in 2040, but it would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent improvement). Because the effects would be small initially, the option would not significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Under this option, the magnitude of the reduction in initial benefits would increase over time before stabilizing in the mid-2060s, when all earnings for newly eligible beneficiaries would be indexed to growth in prices. Scheduled initial benefits for retired workers born in the 1960s would not be significantly changed. After price indexing was in place for several decades, scheduled initial benefits for retired workers born in the 2000s would be reduced by an average of 16 percent for low earners. At 9 percent, the reduction for high earners born in the 2000s would be smaller than that for low earners because for each $1 reduction in the AIME a high earner's PIA would be reduced by 15 cents, whereas a low earner's would be reduced by 32 cents or even 90 cents. For low earners, payable lifetime benefits relative to lifetime earnings would be slightly higher for those born in the 1960s and roughly unchanged for those born in the 1980s but would decrease by 4 percent for those born in the 2000s. That ratio would increase slightly for high earners born in the 1960s or later.

Option 13: Apply the Social Security Benefit Formula to Individual Years of Earnings

This option would apply the formula for calculating the primary insurance amount to each year of wage-indexed earnings, and the overall PIA would be the average of the annual PIAs. This option would essentially reverse the order of the computation of benefits. Currently, to calculate Social Security benefits for a retired worker, first, a value is computed for a worker's average indexed monthly earnings on the basis of the 35 years of highest wage-indexed earnings on which Social Security taxes were paid. Second, a progressive benefit formula is applied to the AIME to arrive at the worker's PIA, the amount that is payable each month to a worker who begins receiving Social Security retired-worker benefits at the full retirement age. But under this option, a worker's 35 highest years of wage-indexed earnings would be identified, and the PIA formula would be applied to each year of those earnings. The worker's PIA would be the average of those annual PIAs.

As under current law, this option's PIA formula would result in a higher replacement rate—the ratio of a worker's benefits to his or her past earnings—for people with lower average earnings than for people whose earnings were higher. However, that progressivity would apply to annual earnings rather than to average earnings over a lifetime at work. The option would be phased in over 10 years for newly eligible beneficiaries, including disabled workers, starting in 2023.

Under this option, almost every worker's PIA would be lower than under current law, but the reduction would be steeper for people whose earnings varied more from year to year, such as workers who spent long periods out of the workforce. There would be no difference in benefits for a worker whose earnings were equal to (or a constant proportion of) the AWI in every year of work. But benefits would be substantially lower for someone with high earnings in some years and low earnings in others.

As an illustration, consider three workers born in 1978, who therefore will turn 62 in 2040 and reach the FRA of 67 in 2045. Over a 35-year period, each worker's wage-indexed average earnings equal the AWI, but they all have different patterns of earnings. The first worker has 35 years of earnings equal to the AWI, the second worker's earnings start below the average wage but increase steadily by $5,000 each year (in wage-indexed dollars) to well above the average wage by the end of the 35-year period, and the third worker has earnings that are higher than the AWI for 25 years but zero for 10 years. Under current law, all three workers have the same PIA—about $2,500 in 2015 dollars. Under Option 13, the

64. Specifically, in computing the AIME, all earnings from 2022 and earlier would be increased by the growth in the average wage index from the earnings year to the year that is two years before the AIME computation year. Earnings from 2023 and later would be increased by the growth in the consumer price index for urban wage earners and clerical workers from the earnings year to the year that is two years before the AIME computation year. The bend points in the formula used to calculate the primary insurance amount would continue to be indexed to growth in average wages.

PIA for the first worker would be the same as under current law. The PIA for the second worker would be about $2,450, about 3 percent less under this option than under current law. This option would have the largest effect on the third worker: His or her PIA would be reduced to $2,300, 8 percent below the current-law amount.[65]

Option 13 could encourage some people to work longer. Under current law, one additional year of work by someone who had worked for fewer than 35 years would, in most cases, increase annual benefits either by 32 percent of the year's earnings divided by 35 or by 15 percent of the year's earnings divided by 35, because most workers have an AIME that is in the 32 percent or 15 percent portion of the PIA formula. Under this option, however, the worker's benefit would increase more, because at least part of the earnings in that additional year would fall into the 90 percent portion of the PIA formula.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040—or by 3 percent relative to currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent improvement). The option would not significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Under this option, reductions in scheduled initial benefits would be largest for retired workers with low lifetime earnings. Scheduled initial benefits for retired workers born in the 2000s would be reduced by 14 percent for low earners but only by 4 percent for high earners; those reductions would be half as large for people born in the 1960s. The reduction would be larger for low earners because their earnings are more likely to vary from year to year and because they are more likely than high earners to spend time out of the workforce.

Payable lifetime benefits relative to lifetime earnings for low earners born in the 1960s, 1980s, or 2000s would decrease by 3 percent to 5 percent; that ratio would slightly increase for high earners.

65. For a more detailed analysis of this option, see Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (March 2011), pp. 66–67, www.cbo.gov/publication/22043.

Option 14: Reduce All PIA Factors by 15 Percent

After a 10-year phase-in starting in 2023, this option would reduce scheduled initial benefits by 15 percent for newly eligible beneficiaries, including disabled workers. Under current law, the formula used to set the primary insurance amount has three factors—90 percent, 32 percent, and 15 percent—which are applied to different portions of the AIME. By 2032, the PIA factors would be 15 percent lower (76.5 percent, 27.2 percent, and 12.75 percent) than those provided for in current law, and they would remain at those levels thereafter. Thus, starting in 2032, a worker's PIA would increase by 76.5 cents for each dollar of the portion of his or her AIME that is below the first bend point, by 27.2 cents for each dollar between the first and second bend points, and by 12.75 cents for each dollar above the second bend point.[66]

Under this option, Social Security's total outlays, measured as a percentage of GDP, would decline by 0.4 percentage points in 2040, or by 7 percent relative to currently scheduled outlays. The size of that decline would increase over time. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 40 percent improvement). Because the PIA factors would be reduced gradually and would apply only to new beneficiaries, the effects would be small initially, and the option would not significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Option 14 would reduce scheduled initial benefits by a similar amount for retired workers in all categories of lifetime earnings within the same birth cohort. Scheduled initial benefits would be reduced by about 7 percent for retired workers born in the 1960s and by about 15 percent for retired workers born in the 1980s or 2000s. Payable lifetime benefits relative to lifetime earnings would be slightly higher than under current law for people born in the 1960s, but slightly lower for most people who were born in the 1980s or 2000s.

66. For a discussion of similar options, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 14, www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), p. 43, www.cbo.gov/budget-options/2013/44687.

Option 15: Reduce the Top PIA Factor to 10 Percent

Starting in 2023 and continuing for 10 years, this option would make a 0.5 percentage-point annual reduction in the top primary insurance amount factor for newly eligible retired and disabled workers. Under current law, that PIA factor is set at 15 percent and applies to the portion of a worker's average indexed monthly earnings that is above the second bend point in the PIA formula. At the end of the phase-in period, the top factor would be set permanently at 10 percent. In that year, a worker's PIA would increase by 10 cents, instead of the 15 cents under current law, for each dollar of his or her AIME that was above the second bend point, which CBO projects will be $5,620 in 2023 (in 2015 dollars). This option would affect only new beneficiaries whose AIMEs were above that bend point, and that bend point would rise with average wages in subsequent years. About one-quarter of people born in 1961, the first birth year affected by this option, are anticipated to fall into that category.

This option would not significantly reduce Social Security's outlays as a percentage of GDP in 2040, but it would improve the 75-year actuarial balance, considered as a share of GDP, by 0.1 percentage point (less than a 10 percent improvement). This option would not significantly extend the combined OASDI trust funds' exhaustion date beyond the currently projected 2029.

Under this option, scheduled initial retired-worker benefits for high earners after the policy was phased in would be reduced by 4 percent. Payable lifetime benefits relative to lifetime earnings would not be significantly different for low earners born in the 1960s and would be slightly higher for low earners born in the 1980s or later; the ratio would be slightly lower than under current law for high earners born in the 1960s and later.

Option 16: Reduce All PIA Factors by 0.5 Percent Annually

Beginning in 2023, this option would reduce the primary insurance amount factors for newly eligible retired and disabled workers by 0.5 percent annually. Under current law, the PIA factors—90 percent, 32 percent, and 15 percent—remain constant over time. Under this option, each year's PIA factors would equal those of the previous year, multiplied by 0.995. By 2040, the factors would be 82.2 percent, 29.2 percent, and 13.7 percent—about 10 percent below those under current law. By 2080, those factors would be reduced to 67.3 percent, 23.9 percent, and 11.2 percent—about three-quarters of their current levels. In that year, a worker's PIA would increase by 67.3 cents for each dollar of the portion of the AIME that is below the first bend point, by 23.9 cents for each dollar between the first and second bend points, and by 11.2 cents for each dollar above the second bend point. In 2054, the reduction in initial benefits under this option would be about the same as that under Option 14 (which would cut benefits by 15 percent, phased in over 10 years, starting in 2023), but cuts under this option would be smaller in the first part of the phase-in period and larger in later years.

Under Option 16, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040—or by 3 percent from currently scheduled outlays. By 2080, outlays would be almost one-fifth below those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 30 percent improvement). Despite the significant improvement in the actuarial balance, this option would not significantly extend the combined trust funds' currently projected exhaustion date of 2029 because reductions in initial benefits would be phased in slowly, apply only to new beneficiaries, and begin just six years before that date.

Under this option, the magnitude of the benefit reduction would increase over time. For retired workers in all categories of lifetime earnings in the 1960s birth cohort, scheduled initial benefits would slightly decrease; that reduction would grow to 11 percent or 12 percent for retired workers born in the 1980s and reach at least 19 percent for retired workers born in the 2000s. Scheduled lifetime benefits relative to lifetime earnings would decrease more for high earners than for low earners in the same birth cohort because workers who claim disability benefits before age 62 would be exposed to fewer years of reductions to PIA factors than those who claim later, and people who claim DI benefits are more likely to have been low earners than high earners.

Payable lifetime benefits relative to lifetime earnings would be slightly higher than under current law for people in all categories of lifetime earnings born in the 1960s but not significantly different for most people who were born in the 1980s or 2000s.

Option 17: Index Initial Benefits to Changes in Longevity

Under this option, initial scheduled benefits for newly eligible retired workers would be reduced in proportion to the increase in average life expectancy at age 62; reductions would begin in 2023.[67] CBO projects that life expectancy at age 62 in 2040 will be about 1.8 years greater than that in 2022, an 8 percent increase, so initial benefits would be reduced by about 8 percent in 2040. This option would not affect DI benefits, nor would it affect the benefits of disabled workers once they began to receive retired-worker benefits upon reaching the full retirement age.

Under this option, Social Security's total outlays, measured as share of GDP, would decline by 0.1 percentage point in 2040—or by 2 percent from currently scheduled outlays. As life expectancy increased, the reduction in outlays would grow considerably larger. By 2080, outlays would be about 10 percent below those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.3 percent (a 20 percent improvement). The option's early effects would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Under this option, the reduction in scheduled initial benefits for retired workers would increase over time. For people in all categories of lifetime earnings in the 1960s birth cohort, scheduled initial retired-worker benefits would decrease slightly, but that reduction would grow to 10 percent for people born in the 1980s and reach 16 percent or 17 percent for people born in the 2000s, on average. Scheduled lifetime benefits relative to lifetime earnings would decrease more for high earners than for low earners in the same birth cohort because workers who claim disability benefits before age 62 are exposed to fewer years of reductions to PIA factors than are those who claim later, and people who claim DI benefits are more likely to have been low earners than high earners.

Payable lifetime benefits relative to lifetime earnings would be slightly lower than under current law for high earners born in the 1980s and 4 percent lower for high earners born in the 2000s, but not significantly different for most other people.

67. Life expectancy is the number of additional years a person is expected to live after reaching a given age.

Option 18: Implement Pure Price Indexing of Initial Benefits

Under current law, some components of the Social Security benefit formula are based on the average wage index. This option would use another method—pure price indexing—for the computation of initial benefits so that the real (inflation-adjusted) value of average initial benefits remained constant over time. Under this option, beginning in 2023, initial benefits for newly eligible retired and disabled workers would increase more slowly than they do under current law. This option would reduce the PIA factors each year by the difference in the rate of growth in the AWI and the rate of growth in the CPI-W; that difference is referred to as real wage growth. (The method of indexing in this option, which would affect the PIA factors, is not the same as indexing the earnings in the AIME formula to prices, which is the subject of Option 12.) As under current law, however, the annual adjustment of the taxable maximum, the calculation of a worker's average indexed monthly earnings, and the bend points for determining the primary insurance amount would continue to be linked to the AWI.

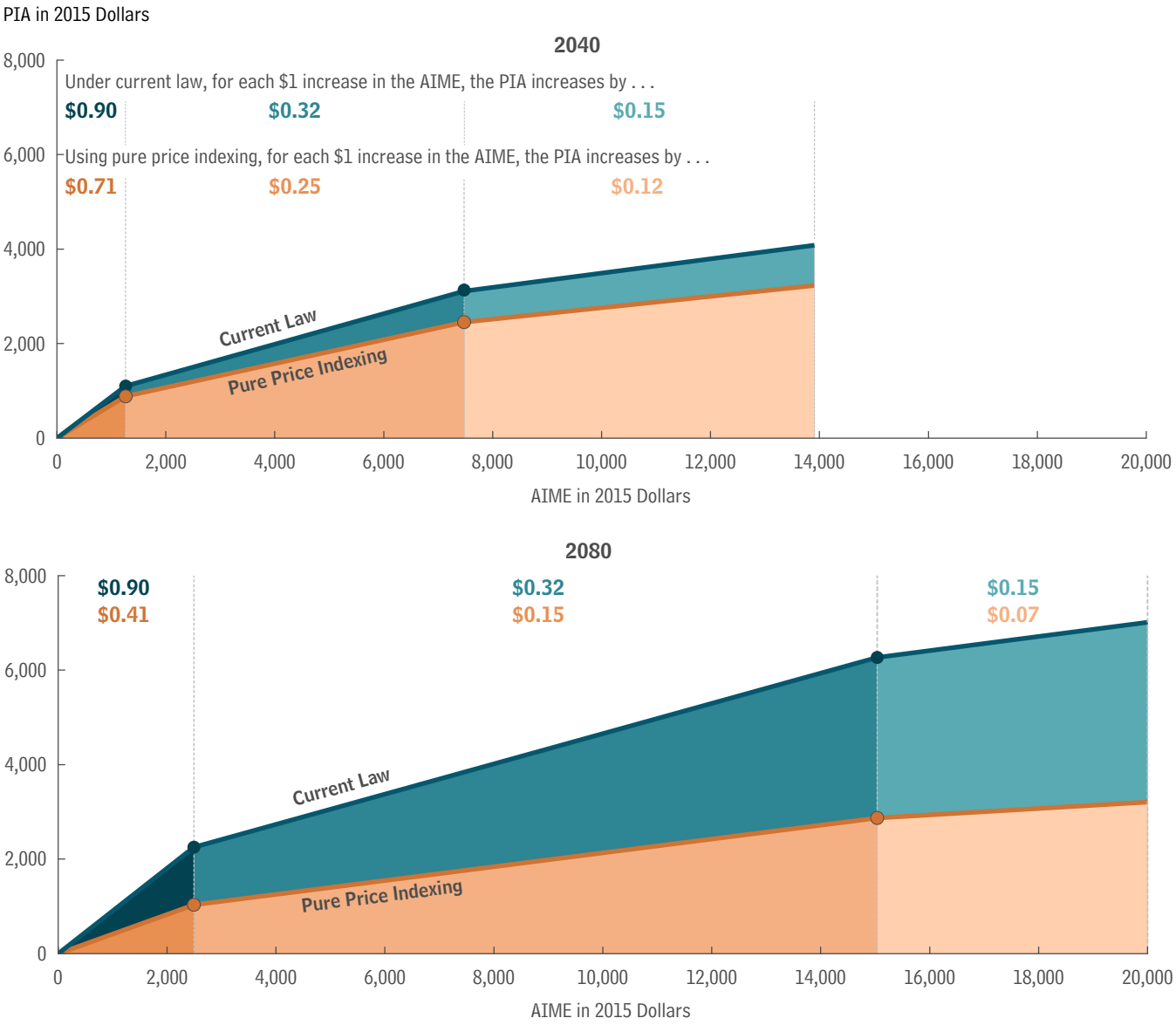
Under Option 18, the reductions to initial benefits would be smaller during periods of slower real wage growth and larger when real wages grew more quickly. Given CBO's long-term projections for growth in real wages, under Option 18, scheduled initial benefits for people first eligible to claim benefits in 2040 would be about 20 percent lower than under current law (see Figure 7).[68] For people first eligible to claim benefits in 2080, scheduled initial benefits would be about half of those projected under current law, CBO estimates. The percentage reduction in initial benefits for retired workers would be the same for all beneficiaries born in the same year.

As is the case for Option 16, under this option, initial benefits would be lower than under current law, but instead of having the change occur at a fixed rate, in each

68. CBO projects that growth in real wages will average 1.4 percent annually over the 2015–2040 period. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, p. 112, www.cbo.gov/publication/50250. If real wage growth was higher than projected, this option would result in larger benefit reductions; if wages grew more slowly than projected, the reductions would be smaller.

Figure 7.

Calculating the PIA Using Pure Price Indexing (Option 18)



Source: Congressional Budget Office.

Notes: Under current law, the PIA for newly eligible beneficiaries is indexed to wages. In 2040 (top panel), the current-law PIA factors (which determine the percentage of the AIME that is replaced in the PIA formula) will be 90 percent of the first $1,240 of the AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent between $1,240 and $7,480, plus 15 percent above $7,480. With indexing to prices alone, the bend points (denoted by dots on the line, showing the thresholds at which a PIA factor changes) would not change and the PIA factors would be set at 71 percent, 25 percent, and 12 percent.

If a person born in 1978 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2040, that person's AIME would be $13,910, the maximum.

By 2080 (bottom panel), the bend points would be $2,490 and $15,030 and the current-law PIA factors would be the same as in 2040. Under pure price indexing, the PIA factors would be set at 41 percent, 15 percent, and 7 percent.

If a person born in 2018 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2080, that person's AIME would be $27,800, the maximum.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

year the reduction would be tied to the difference in the growth of prices and average wages. Under current law, average real scheduled benefits grow over time, and the ratio of initial scheduled benefits to average earnings (as measured by the worker's AIME) remains roughly constant. Under this option, average initial real benefits would remain constant, and initial scheduled benefits measured as a share of past earnings adjusted for growth in wages would decline over time from an average of 47 percent for people first eligible to claim retired-worker benefits in 2015 to about 39 percent for people who will retire in 2040.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.4 percentage points in 2040, or by 7 percent from currently scheduled outlays. The savings would continue to grow and, by 2080, outlays would be about 40 percent below those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 1.1 percentage points (about an 80 percent improvement), the largest reduction of any option presented in this report. But the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Under this option, the reduction in scheduled initial benefits for retired workers would increase over time. For those in all categories of lifetime earnings in the 1960s birth cohort, scheduled initial benefits would decrease by 5 percent. That reduction would grow to 27 percent or 28 percent for people born in the 1980s and reach 44 percent or 45 percent for people born in the 2000s.

Payable lifetime benefits relative to lifetime earnings would increase by 3 percent or 4 percent for people in the 1960s birth cohort, but for people born in the 1980s, that ratio would not change significantly for low earners and would decrease by 3 percent for high earners. For people born in the 2000s, that ratio of payable benefits to earnings would be reduced by 10 percent for low earners and by 17 percent for high earners. The reduction in lifetime benefits for people in the 1980s and 2000s birth cohorts would be smaller for low earners than for high earners, at least in part because workers who claim disability benefits before age 60 would be exposed to fewer years of price indexing than are those who claim later, and people who claim DI benefits are more likely to have been low earners than high earners.

Option 19: Implement Progressive Price Indexing of Initial Benefits for the Top 70 Percent of Earners

This option would rely on progressive price indexing to set initial benefits for most earners. Beginning in 2023, newly eligible retired and disabled workers who had earned the taxable maximum for 35 years (maximum earners) would receive initial benefits that were indexed to the consumer price index for urban wage earners and clerical workers rather than to the average wage index, as under current law. Beneficiaries whose 35 years of highest earnings were below those of the maximum earners in the same birth cohort but above those of people at or below the 30th percentile of earners would see their initial benefits rise more rapidly than prices but more slowly than the AWI. Initial benefits for workers whose lifetime earnings were below the 30th percentile would be indexed to average wages as they are now, and their benefits would be the same as those scheduled under current law. Thus, benefits for workers with earnings only marginally higher than the 30th percentile of the earnings distribution would rise only slightly more slowly than average wages, whereas initial benefits for maximum earners would be subject to pure price indexing (as would occur under Option 18). Option 19 would preserve the current benefit formula for workers with relatively low earnings and reduce the growth of initial benefits for workers with relatively higher earnings.[69]

As Option 19 took effect, the factors used to determine the primary insurance amount for the top 70 percent of earners would decline gradually, and, therefore, initial benefits for those people would decline over time compared with benefits scheduled under current law. Because CBO projects that the bend points in the current-law PIA formula will occur at approximately the 10th and 70th percentiles of average indexed monthly earnings in 2023, an additional bend point would be added at the 30th percentile of AIMEs in that year (encompassing the lowest 30 percent of earners). Under this option, all three bend points would increase with average wages in 2024 and beyond.

69. For a discussion of similar options, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 12, www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 38–39, www.cbo.gov/budget-options/2013/44687.

In 2023, the new bend point would be at about $1,930 (in 2015 dollars)—roughly 20 percent of the way between the first and second bend points under current law, CBO estimates. Between the first bend point and the new one, the PIA factor would remain at 32 percent. The next two PIA factors initially would be set at 32 percent and 15 percent, but they would be reduced annually at the rate needed to keep a maximum earner's initial benefits indexed to the CPI-W (see Figure 8). Those two PIA factors would decrease each year by more than the amount that real wages had grown because the first two PIA factors (90 percent and 32 percent) would not change under this option. Eventually, the price-indexed monthly benefit for a maximum earner would equal the monthly benefit for a worker with earnings at the new bend point, which would have increased at the rate of earnings growth. Under this option, CBO projects, that outcome would occur after 2089, the last year of the 75-year projection period, at which time the top two PIA factors would be set to zero. Thereafter, scheduled initial benefits for all new beneficiaries would increase with earnings, but benefits would be no higher than the amount received by workers with earnings at the new bend point.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040, or by 4 percent from currently scheduled outlays. By 2080, outlays would be almost one-quarter less than currently scheduled outlays. This option would improve the 75-year actuarial balance, considered relative to GDP, by 0.6 percentage points (about a 40 percent improvement), but the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Scheduled initial retired-worker benefits for low earners in all birth cohorts would be essentially unchanged. Those benefits for people born in the 1980s would decline by 11 percent for people in the middle of the earnings distribution and by 23 percent for high earners; people born in the 2000s would face substantially larger reductions.

Payable lifetime benefits relative to lifetime earnings for people born in the 1980s would increase by 11 percent for low earners and by 4 percent for people in the middle of the earnings distribution but decrease by 11 percent for high earners. That ratio of payable benefits to earnings under this option for people born in the 2000s would increase by 22 percent for low earners and by 4 percent for people in the middle of the earnings distribution but would decrease by 20 percent for high earners.

Option 20: Implement Progressive Price Indexing of Initial Benefits for the Top 50 Percent of Earners

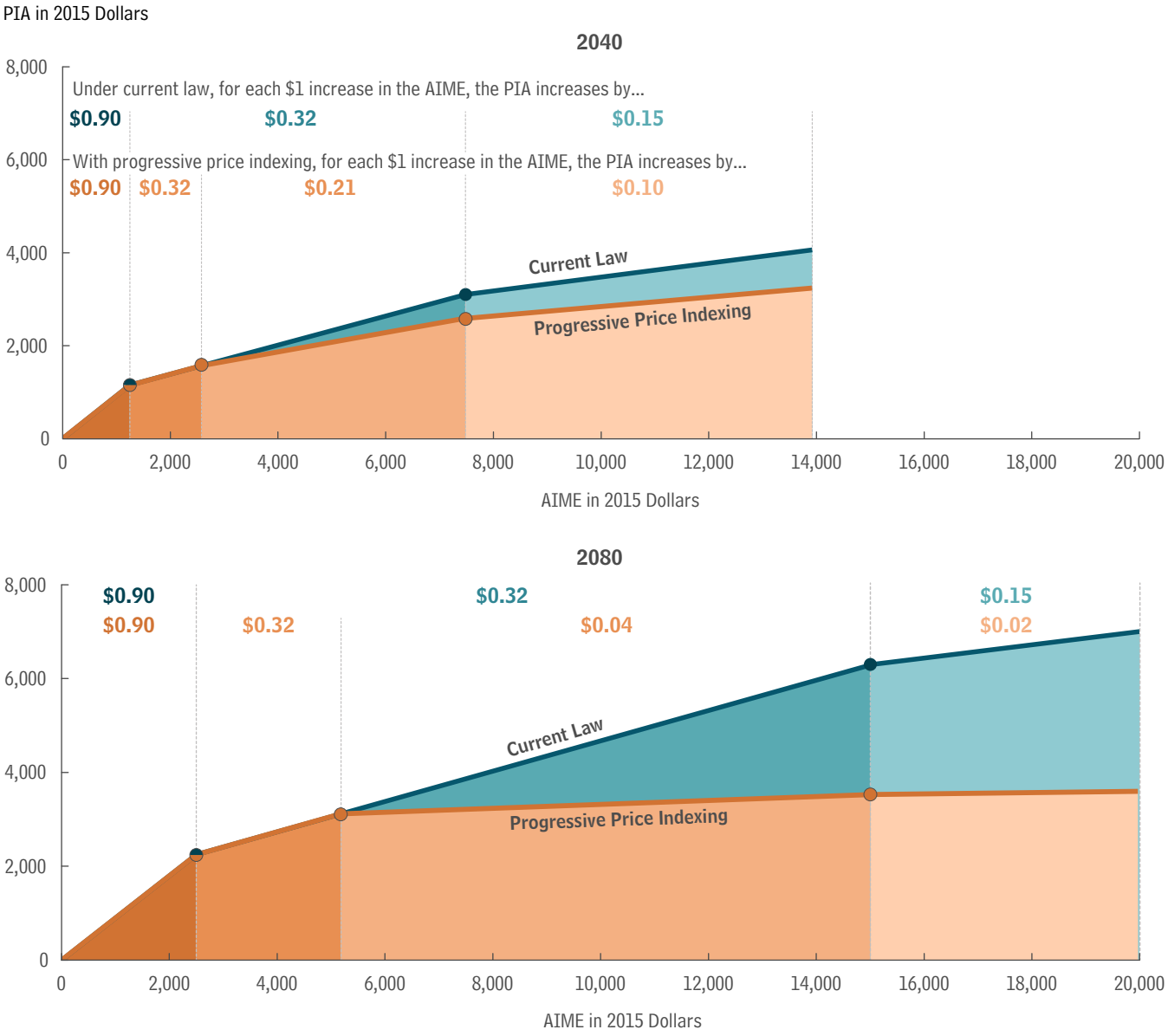
This option, which is similar to Option 19, would rely on progressive price indexing to set initial benefits for the top 50 percent of earners. Beginning in 2023, newly eligible retired and disabled workers who had been maximum earners (earning the taxable maximum for 35 years) would receive initial benefits that were indexed to the consumer price index for urban wage earners and clerical workers rather than to the average wage index, as under current law. Beneficiaries whose 35 years of highest earnings were below those of the maximum earners but above those of people at or below the 50th percentile (rather than the 30th percentile, as in Option 19) of earners would see their initial benefits rise more rapidly than prices but more slowly than the AWI. Initial benefits for workers whose lifetime earnings were below the 50th percentile would be indexed to average wages as they are now, and their benefits would be the same as those scheduled under current law.

As in Option 19, the change would be achieved by adding a bend point between the first and second bend points in the current-law PIA formula. In 2023, that new bend point initially would be set at the 50th percentile of the lifetime earnings distribution, which CBO estimates would be at about $3,140 (in 2015 dollars)—roughly 45 percent of the way between the current-law first and second bend points. Between the first bend point and the new one, the PIA factor would remain at 32 percent. The next two PIA factors initially would be set at 32 percent and 15 percent, but they would be reduced annually at the rate needed to keep a maximum earner's initial benefits indexed to the CPI-W.

Under Option 20, the top two PIA factors would fall to zero in the early 2070s, CBO estimates. At that time, benefits for a worker whose lifetime earnings were at the new bend point (which would have increased at the rate of average wages) would equal the benefits paid to maximum earners (that amount also would be indexed to the CPI-W). Thereafter, scheduled initial benefits for retired and disabled beneficiaries would be indexed to average wages, but those benefits would be no higher than the amount received by workers with earnings at the new

Figure 8.

Calculating the PIA Using Progressive Price Indexing (Option 19)



Source: Congressional Budget Office.

Notes: Under current law, the PIA for newly eligible beneficiaries is indexed to wages. In 2040 (top panel), the current-law PIA factors (which determine the percentage of the AIME that is replaced in the PIA formula) will be 90 percent of the first $1,240 of the AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent between $1,240 and $7,480, plus 15 percent above $7,480. With progressive price indexing, the bend points (denoted by dots on the line, showing the thresholds at which a PIA factor changes) would be $1,240, $2,570, and $7,480 and the PIA factors would be 90 percent, 32 percent, 21 percent, and 10 percent.

If a person born in 1978 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2040, that person's AIME would be $13,910, the maximum.

By 2080 (bottom panel), the bend points would be $2,490 and $15,030 and the current-law PIA factors would be the same as in 2040. Under progressive price indexing, the bend points would be $2,490, $5,170, and $15,030 and the PIA factors would be set at 90 percent, 32 percent, 4 percent, and 2 percent.

If a person born in 2018 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2080, that person's AIME would be $27,800, the maximum.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

bend point. Under this option, the top two PIA factors would reach zero earlier than they do in Option 19 because the new bend point would occur at a higher amount of earnings. Benefits for people with AIMEs above the middle bend point would decline at a faster rate than in Option 19, but the point at which they stopped decreasing would be higher.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040, or by 3 percent from currently scheduled outlays. By 2080, outlays would be almost one-fifth lower than currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 30 percent improvement), but the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Scheduled initial retired-worker benefits for low earners in all birth cohorts would be essentially unchanged under this option. Those benefits for people born in the 1980s would decline by 5 percent for people in the middle of the earnings distribution and by 21 percent for high earners; people born in the 2000s would face larger reductions.

Payable lifetime benefits relative to lifetime earnings for people born in the 1980s would increase by 8 percent for low earners and by 6 percent for people in the middle of the earnings distribution but decrease by 13 percent for high earners, on average. That ratio of payable benefits to earnings under this option for people born in the 2000s would increase by 17 percent for low earners and by 9 percent for people in the middle of the earnings distribution but would decrease by 23 percent for high earners.

Option 21: Index the Bend Points in the PIA Formula to Prices

This option would reduce initial scheduled benefits for newly eligible retired and disabled workers by slowing the rise of the bend points. Under this option, beginning in 2023, the bend points in the PIA formula would be indexed to prices rather than to average wages, as they are under current law. However, the computation of a worker's average indexed monthly earnings would still be indexed to growth in average wages. Because a worker's AIME would grow with average wages while the bend points in the PIA formula grew more slowly, over time, the 90 percent and 32 percent PIA factors would be applied to a smaller portion of that worker's total AIME. CBO projects that growth in real wages will average 1.4 percent annually over the 2015–2040 period.[70] Given those growth rates, the bend points would be about 20 percent lower in 2040 than under current law (see Figure 9). This option is not the same as pure price indexing, which is discussed in Option 18, nor is it the same as progressive price indexing, which is the subject of Option 19 and Option 20: This option changes the bend points rather than modifying the PIA factors.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040, or by 3 percent from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.5 percentage points (about a 40 percent improvement), but the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

The percentage reduction in scheduled initial benefits under this option for retired workers would increase over time: by a small amount for people who were born in the 1960s, but by 11 percent to 14 percent for people born in the 1980s, and by 21 percent to 23 percent for those born in the 2000s. The reduction in scheduled lifetime benefits relative to lifetime earnings would, on average, be smaller for low earners than for high earners, at least in part because workers who claim disability benefits before age 62 would be exposed to fewer years of reductions to the bend points than are those who claim later, and people who claim DI benefits are more likely to have been low earners than high earners.

Payable lifetime benefits relative to lifetime earnings would be reduced only a bit for high earners born in the 1980s or 2000s but would increase slightly for people in other categories of lifetime earnings.

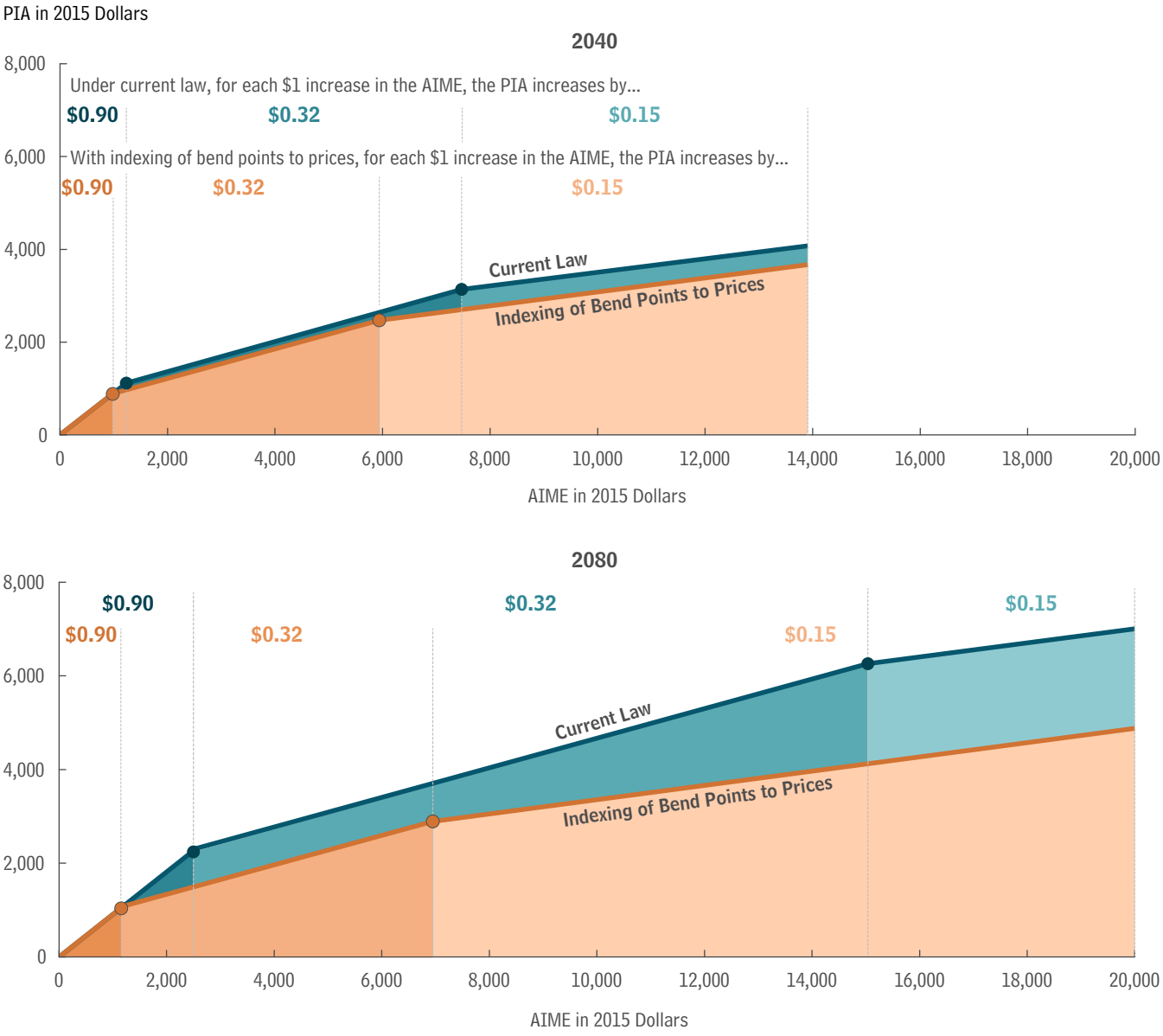
Option 22: Add an Additional Bend Point to the PIA Formula and Reduce the PIA Factors

This option would create an additional bend point at the 50th percentile of earners and, beginning in 2023, change the primary insurance amount factors. The new bend point would be at about $3,140 (in 2015 dollars)—

70. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, p. 112, www.cbo.gov/publication/50250.

Figure 9.

Calculating the PIA Using Indexing of Bend Points to Prices (Option 21)



Source: Congressional Budget Office.

Notes: Under current law, the PIA for newly eligible beneficiaries is indexed to wages. In 2040 (top panel), the current-law PIA factors (which determine the percentage of the AIME that is replaced in the PIA formula) will be 90 percent of the first $1,240 of the AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent between $1,240 and $7,480, plus 15 percent above $7,480. If they were indexed to prices, the bend points (denoted by dots on the line, showing the thresholds at which a PIA factor changes) would be set at $990 and $5,940 and the PIA factors would remain the same as they would be under current law.

If a person born in 1978 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2040, that person's AIME would be $13,910, the maximum.

By 2080 (bottom panel), the current-law bend points would be $2,490 and $15,030 and the current-law PIA factors would be the same as in 2040. If the bend points were indexed to prices, they would be $1,150 and $6,950 and the PIA factors would remain the same as they would be under current law.

If a person born in 2018 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2080, that person's AIME would be $27,800, the maximum.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

about 45 percent of the way between the first and second bend points under current law. Below the first bend point, the 90 percent PIA factor would remain unchanged. Between the first bend point and the new one, over a 10-year span, the PIA factor would decrease from 32 percent to 30 percent. The PIA factor applied between the new bend point and the highest bend point (the second bend point under current law) would decrease from 32 percent to 10 percent over that same period. The PIA factor applied above the highest bend point would be reduced from 15 percent to 5 percent (see Figure 10).

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.5 percentage points in 2040, or by 8 percent from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.6 percentage points (about a 40 percent improvement), but the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Scheduled initial retired-worker benefits under this option for most low earners in all birth cohorts would decrease only slightly. Those benefits for people born in the 1960s would decline by about 6 percent for people in the middle of the earnings distribution and by 12 percent for high earners. People in the 1980s and 2000s birth cohorts would face larger reductions—at least 8 percent for people in the middle of the earnings distribution and 27 percent for high earners.

Payable lifetime benefits relative to lifetime earnings would be higher, on average, than those paid under current law for low earners and for people in the middle of the earnings distribution, and lower for high earners. For example, that ratio for people born in the 2000s would increase by 16 percent for low earners and by 7 percent for people in the middle of the earnings distribution but would decrease by 16 percent for high earners.

Option 23: Increase the First Bend Point in the PIA Formula by 15 Percent

Under this option, in 2016, the first bend point would increase permanently by 15 percent above the current-law amount, thereby increasing benefits because the 90 percent primary insurance amount factor would apply to a larger portion of a worker's average indexed monthly earnings. This option would apply to newly eligible retired and disabled workers, and benefits for current beneficiaries would be recalculated using the higher first bend point.

Under this option, Social Security's total outlays, measured as a share of GDP, would increase by 0.3 percentage points in 2040, or by 4 percent from currently scheduled outlays. This option would worsen the 75-year actuarial balance, considered as a share of GDP, by 0.3 percentage points (about a 20 percent decline), and the combined trust funds would be exhausted in 2027, two years earlier than projected under current law. If this option increased benefits only for newly eligible retired and disabled workers, Social Security's total outlays would increase by 3 percent in 2040 from currently scheduled outlays, and the 75-year actuarial balance would worsen by 0.2 percentage points.

Increases in scheduled initial benefits for retired workers would be between 3 percent and 5 percent for all birth cohorts under this option. Payable lifetime benefits relative to lifetime earnings would increase by a small amount for most low earners and decrease slightly for high earners.

Option 24: Replace the Current PIA Formula With a New Two-Part Formula

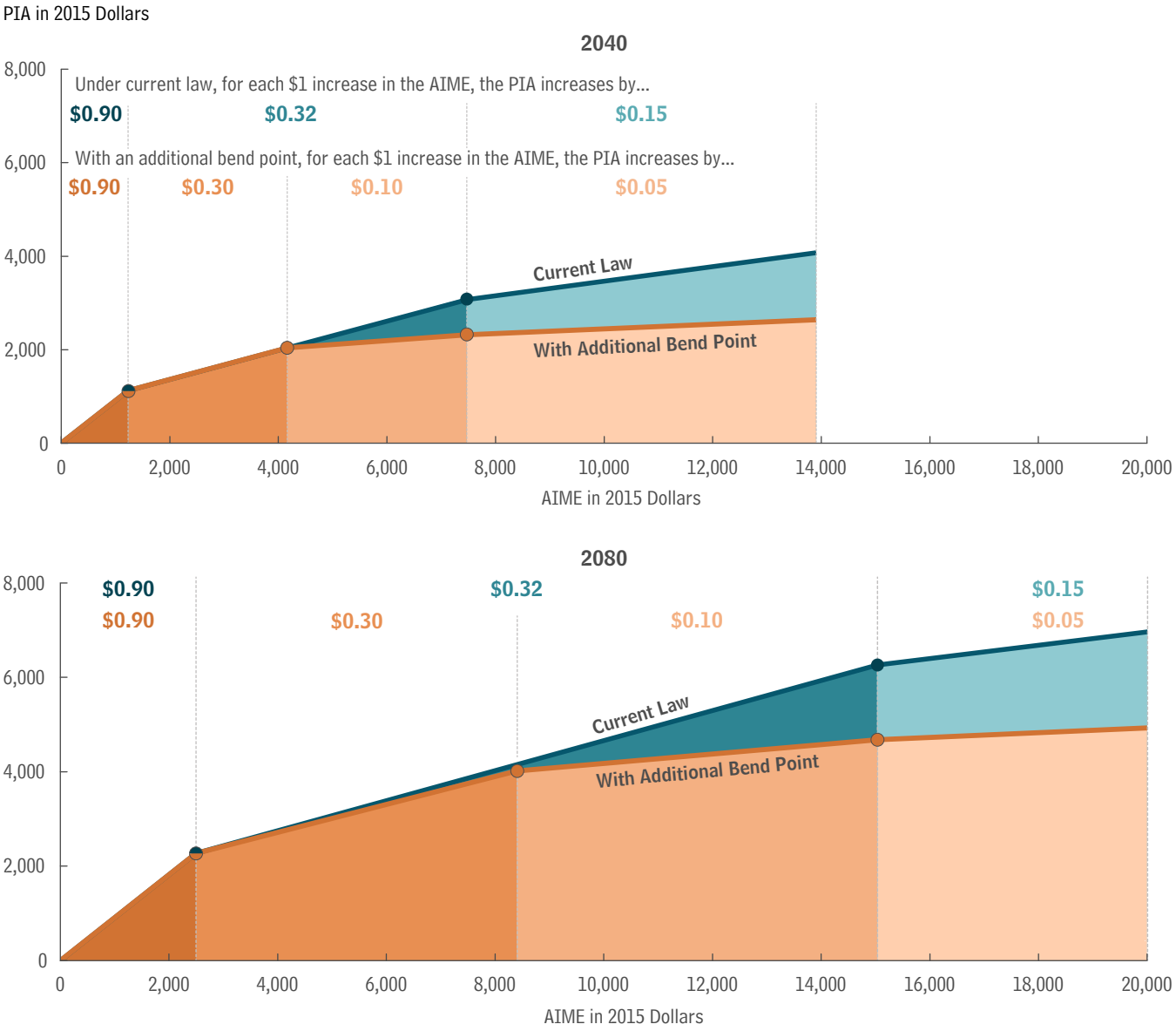
Beginning in 2023, this option would introduce a new formula for calculating the primary insurance amount for newly eligible retired workers. The PIA would equal the sum of two amounts: The first would provide each worker with a benefit based on the number of years of work, and the second would provide each worker with additional benefits proportional to his or her average indexed monthly earnings.

The first part of the formula would provide a fixed benefit for every quarter of coverage accumulated by a worker, regardless of earnings. As under current law, a retired worker would need at least 40 quarters of coverage to be eligible.[71] For newly eligible retired workers in 2023, this part of the formula would contribute a maximum of $1,140 (in 2015 dollars) per month to the PIA; that is,

71. To be eligible for retirement benefits, a person generally must have worked for a minimum of 10 years (accounting for 40 quarters of coverage, or 40 credits) under the program. A worker can amass up to 4 credits per year on the basis of wages earned for covered employment. The minimum amount for a credit in 2015 is $1,220 in wages, so any worker who earns at least $4,880 will receive 4 credits for the year.

Figure 10.

Calculating the PIA Using an Additional Bend Point (Option 22)



Source: Congressional Budget Office.

Notes: Under current law, the PIA for newly eligible beneficiaries is indexed to wages. In 2040 (top panel), the current-law PIA factors (which determine the percentage of the AIME that is replaced in the PIA formula) will be 90 percent of the first $1,240 of the AIME (a replacement rate of 90 cents on the AIME dollar), plus 32 percent between $1,240 and $7,480, plus 15 percent above $7,480. If an additional bend point (denoted by a dot on the line, showing the threshold at which a PIA factor changes) was added, the bend points would be set at $1,240, $4,170, and $7,480 and the PIA factors would change to 90 percent, 30 percent, 10 percent, and 5 percent.

If a person born in 1978 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2040, that person's AIME would be $13,910, the maximum.

By 2080 (bottom panel), the current-law bend points would be $2,490 and $15,030 and the current-law PIA factors would be the same as in 2040. If an additional bend point was added, the bend points would be set at $2,490, $8,390, and $15,030 in 2080 and the PIA factors would change to 90 percent, 30 percent, 10 percent, and 5 percent.

If a person born in 2018 had 35 years of earnings at or above the taxable maximum and stopped working at age 62 in 2080, that person's AIME would be $27,800, the maximum.

AIME = average indexed monthly earnings; PIA = primary insurance amount.

$7.10 per quarter for up to 160 quarters of accumulated coverage.[72] After 2023, that amount would increase with average wages. The second part of the formula would provide additional benefits in proportion to earnings, calculated as 15 percent of the AIME.[73] The new PIA formula would be phased in over 10 years for newly eligible beneficiaries, including disabled workers.[74]

Under this option, Social Security's total outlays, measured as a share of GDP, would decrease by 0.2 percentage points in 2040, or by 3 percent from currently scheduled outlays. The option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 20 percent improvement), but the early effects of this option would be too small to significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029.

Under this option, scheduled initial retired-worker benefits would increase for low earners and decrease for people in the middle of the earnings distribution and for high earners. For example, for people born in the 2000s, such benefits would increase by 15 percent for low earners but decrease by 9 percent for people in the middle of the earnings distribution and by 15 percent for high earners.

Payable lifetime benefits relative to lifetime earnings would be higher for low earners, about the same for people in the middle of the earnings distribution, and lower for high earners than under current law. For people born in the 1980s or later, for example, that ratio would increase by at least 23 percent for low earners but decline by 8 percent for high earners.

72. In 2023, the first part of the new PIA formula would be equal to the federal poverty guideline for a single-person household if a worker had earned 140 quarters of coverage (equivalent to 35 years of work).

73. The first part of the new PIA formula for newly eligible DI beneficiaries in 2023 would be equal to the poverty guideline for a single-person household, regardless of the quarters of coverage a worker accumulated. The second part of the new PIA formula would be 15 percent of the current-law AIME.

74. In 2023, a worker's PIA would equal 90 percent of the current-law PIA plus 10 percent of the new PIA. For the next nine years, the contribution from the current-law PIA would decrease by 10 percentage points and the contribution from the new PIA would increase by 10 percentage points. In 2032 and later, a newly eligible worker's PIA would be calculated using only the new, two-part, method.

Options That Would Raise the Full Retirement Age

Social Security's full retirement age—the age at which a person becomes eligible to claim full retirement benefits—is set according to the year of a person's birth. Under current law, for workers born between 1943 and 1954, the FRA is age 66. For workers born between 1955 and 1960, the FRA increases by two months for each successive birth year until it reaches age 67 for people born in 1960 or later. The FRA is 66 for people who turned 62 in 2015. The FRA will begin to increase for people turning 62 in 2017, and it will reach age 67 for those turning 62 in 2022. For each year that a worker claims benefits before reaching the FRA, benefits are reduced by an amount that ranges from 5 percent to 6⅔ percent. New beneficiaries between the FRA for their birth cohort and age 70 receive a delayed-retirement credit, which increases benefits by 8 percent for each year beyond the FRA that a person delays receiving benefits.[75]

An increase in the FRA would result in lower benefits for every newly retired Social Security recipient, regardless of the age at which a person claims benefits. A one-year increase is equivalent to an annual reduction in benefits of between 5 percent and 8 percent, depending on the age at which a recipient chooses to claim benefits. Under current law, a beneficiary (born in 1960 or later) who claims retirement benefits at the early eligibility age of 62 would receive a benefit that is 30 percent less than the amount he or she would receive by waiting to reach the FRA. If the FRA increased to 68, for example, the reduction would be 35 percent.

An increase in the FRA would cause workers to claim retired-worker benefits later, on average.[76] Some workers

75. If a worker claims benefits before reaching the FRA, benefits are reduced by 5/9 of 1 percent for each month (6⅔ percent per year) before the FRA, for up to 36 months. If the number of months exceeds 36, the benefit is further reduced by 5/12 of 1 percent per month (5 percent per year). People who were born in 1943 or later and who claim benefits after reaching their FRA generally receive a delayed-retirement credit that amounts to 8/12 of 1 percent for each month (8 percent per year) they delay claiming. No additional credit is given if a person first claims benefits after age 70. See Social Security Administration, Social Security Benefits, "Effect of Early or Delayed Retirement on Retirement Benefits" (August 2010), www.ssa.gov/oact/ProgData/ar_drc.html.

76. Joyce Manchester and Jae G. Song, "What Can We Learn From Analyzing Historical Data on Social Security Entitlements?" *Social Security Bulletin*, vol. 71, no. 4 (November 2011), pp. 1–13, www.ssa.gov/policy/docs/ssb/v71n4.

who delayed claiming retired-worker benefits until reaching the FRA might nevertheless be eligible before that time to claim disability benefits as a result of illness or injury. Such workers would have an incentive to claim those benefits because the Disability Insurance program does not reduce benefits on the basis of the age at which people claim them.[77]

In the face of a later FRA, some people could decide to work longer, thus increasing the size of the workforce and thereby boosting revenues from payroll taxes. Their additional earnings could result in higher Social Security benefits in the future, although that increase would be generally smaller than the increase in payroll taxes. On average, however, when the FRA increases, benefits decline. And that reduction would result in slightly less in tax revenues because smaller amounts of income taxes would be collected from recipients of those benefits. The benefit reductions from increasing the FRA (and making no other policy changes) would increase the risk of poverty at older ages among people who did not respond to the increase in the FRA by waiting to claim benefits.

Increasing the EEA (the age at which workers may start receiving reduced retirement benefits) along with the FRA would require some people to wait longer to receive retirement benefits, resulting in higher average monthly payments. On average, people can expect to receive more benefits over a lifetime for each year they delay claiming benefits before they reach the FRA. (For information on the actuarial fairness of the reductions or increases to benefits at various ages for claiming them, see Appendix B.) However, increasing the EEA also could cause financial hardship for some people who were not able to work beyond age 62 and who were not eligible to collect DI benefits.

All of the options in this section would increase the FRA starting in 2023 for newly eligible retired workers; one option also would increase the EEA. Payments to people who receive DI benefits would not be affected, but the age at which those beneficiaries converted to retired-worker status would increase with the FRA. Additionally, the maximum age at which someone could receive the delayed-retirement credit would rise at the same rate as the FRA for all options.

See Table 2 on page 23 for the effects of the options on Social Security's finances, Table 3 on page 30 for effects on distributional outcomes under the assumption that scheduled benefits are paid, and Table 4 on page 36 for effects on distributional outcomes under the assumption that only payable benefits are paid.

Option 25: Raise the FRA to 68

Under current law, the full retirement age will reach 67 for people born in 1960 or later. This option would continue to raise the FRA by an additional two months per birth year for another six years. The FRA would reach 68 for workers born in 1966; those workers would reach their FRA and would be eligible for full retired-worker benefits in 2034. Under this option, people born in 1966 or later who claimed benefits between ages 68 and 71 would receive the delayed-retirement credit.

Under this option, Social Security's total outlays, measured as a percentage of GDP, would decline by 0.2 percentage points in 2040, or by 3 percent from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent improvement) but would not significantly extend the combined trust funds' exhaustion date beyond the currently projected 2029 because increases in the FRA would be phased in and would not begin until 2023, just six years before that date.

After this option was fully phased in, scheduled initial benefits for retired workers born in the 1980s or 2000s and claiming at age 65 would be reduced by 8 percent relative to the benefits they would receive under current law. However, the overall reduction in scheduled lifetime benefits relative to lifetime earnings would be smaller (between 3 percent and 5 percent) because some people would delay claiming benefits to match the increase in the FRA. That smaller reduction in lifetime benefits would occur because some people would work for additional years before claiming benefits and the actuarial adjustments to benefits for that later claiming—which, in principle, could result in unchanged lifetime benefits—are imperfect.

Payable lifetime benefits relative to lifetime earnings would not change significantly.

77. For more information about changes to the FRA and the EEA, see Congressional Budget Office, *Raising the Ages of Eligibility for Medicare and Social Security* (January 2012), www.cbo.gov/publication/42683.

Option 26: Raise the FRA to 70

This option, which is similar to Option 25, would continue to increase the full retirement age by two months per birth year for another 18 years, until it reached age 70 for workers who were born in 1978. In 2040, people who were born in 1978 will turn 62, the early eligibility age. If they claimed benefits that year, the amount would be 45 percent less than they would receive if they waited until 2048, when they reached the FRA of 70. Because of the delayed-retirement credit, benefits would increase for each additional month a worker waited to claim benefits from the FRA through age 73.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.3 percentage points in 2040, or by 6 percent from those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.4 percentage points (about a 30 percent improvement). Despite that improvement, this option would not significantly extend the exhaustion date projected for the trust funds because increases in the FRA are phased in and would not begin until 2023.[78]

After this option was fully phased in, scheduled initial benefits for retired workers born in the 1980s or 2000s would be reduced by 19 percent relative to what they would receive under current law. However, the overall reduction in scheduled lifetime benefits relative to lifetime earnings would be smaller—by 9 percent or 10 percent for low earners born in the 1980s or 2000s and by 15 percent or 16 percent for high earners in the same birth cohorts—because some people would delay claiming benefits to match the increase in the FRA. That smaller reduction in lifetime benefits would occur because some people would work for additional years before claiming benefits and the actuarial adjustments to benefits for that later claiming are imperfect.

Payable lifetime benefits relative to lifetime earnings would increase slightly for people in all categories of lifetime earnings born in the 1960s and decrease for those born in the 1980s. Among people born in the 2000s, that ratio would decline by 4 percent for high earners and increase by 3 percent for low earners.

78. For a more detailed analysis of a similar option, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 13, www.cbo.gov/budget-options/2014, and *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 40–41, www.cbo.gov/budget-options/2013/44687.

Option 27: Increase the FRA by One Month per Birth Year

This option would increase the full retirement age beyond the currently scheduled increase to age 67 by one month per birth year, indefinitely. That rate of increase would maintain an approximately constant ratio of projected years of benefits to years of work: For people born after 1960, the ratio of life expectancy at the FRA to the number of years from age 21 to the FRA would be roughly the same. Under this option, the FRA would reach 68 for people born in 1972; it would reach 70 for people born in 1996. At the end of the 75-year period, the FRA would be 72 years and 7 months for people born in 2027; the delayed-retirement credit would increase benefits for every additional month that those workers delayed claiming benefits beyond age 72 and 7 months through age 75 and 7 months.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040, or by 3 percent relative to currently scheduled outlays. By 2080, outlays would be about 15 percent below those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.4 percentage points (about a 30 percent improvement). Despite that improvement, this option would not significantly extend the combined trust funds' currently projected exhaustion date of 2029 because increases in the FRA would start in 2023, just six years before that date.

Under this option, scheduled initial benefits for retired workers born in the 1960s would decrease by 3 percent. The reduction would be progressively greater for people in later birth cohorts: Relative to the outcome under current law, scheduled initial retired-worker benefits would decline by 14 percent for people born in the 1980s and by 23 percent or 24 percent for people born in the 2000s. However, the reduction in scheduled lifetime benefits relative to lifetime earnings would be smaller because some people would delay claiming benefits when the FRA increased. That smaller reduction in lifetime benefits would occur because some people would work for additional years before claiming benefits and the actuarial adjustments to benefits for that later claiming are imperfect. That ratio of scheduled benefits to earnings would decrease slightly for people born in the 1960s. For low

earners, the ratio would decline by 7 percent for people born in the 1980s and by 9 percent for those born in the 2000s. It would decrease by 11 percent for high earners born in the 1980s and by 18 percent for high earners born in the 2000s. Benefits would decline less for low earners because people in the low lifetime earnings category are more likely to have claimed disability benefits, which are not affected by changes in the FRA.

Payable lifetime benefits relative to lifetime earnings would increase slightly for people born in the 1960s. For people born in the 1980s, payable lifetime benefits relative to lifetime earnings would not change significantly for low earners, and that ratio would decrease by a small amount for high earners. For people born in the 2000s, the ratio would increase by an average of 4 percent for low earners but decline by 3 percent for high earners.

Option 28: Increase the FRA and the EEA by One Month per Birth Year

This option is similar to Option 27 in that it would raise the full retirement age by one month per birth year, but it would also increase the early eligibility age at the same rate. The EEA for workers who were born in 1972 would be 63 and their FRA would be 68; those workers will turn 63 in 2035. The EEA for workers who were born in 1996 would be 65 and their FRA would be 70. The maximum age at which a beneficiary could receive the delayed-retirement credit would increase by one month per year as well. The initial budgetary effect of an increase in both the FRA and the EEA would be a shift in the timing of outlays relative to that which would occur with a change in the FRA alone. Because beneficiaries who claimed later than they would have without the change in the EEA would receive a larger benefit, annual outlays eventually would be higher than if the EEA remained at 62.

Under this option, Social Security's total outlays in 2040, measured as a share of GDP, would decline by 0.2 percentage points, or by 4 percent relative to currently scheduled outlays. By 2080, outlays would be about 15 percent below those currently scheduled. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.4 percentage points (about a 30 percent improvement). Despite that improvement, this option would not significantly extend the combined trust funds' currently projected exhaustion date of 2029 because increases in the FRA and the EEA would start in 2023, just six years before that date.

Under this option, the reduction in scheduled initial benefits for retired workers would be about the same as the reductions under Option 27—3 percent for people born in the 1960s, 13 percent or 14 percent for people born in the 1980s, and 21 percent to 23 percent for people born in the 2000s.[79] The reduction in scheduled lifetime benefits relative to lifetime earnings would be smaller than the reduction under Option 27, in part because raising the EEA would delay the age at which people could claim even greatly reduced benefits. As a result, some people might work for additional years before claiming benefits, and the actuarial adjustments to benefits for that later claiming are imperfect. That ratio would decline by 5 percent to 7 percent for low earners born in the 1980s or 2000s. It would decrease by 9 percent for high earners born in the 1980s and by 15 percent for high earners born in the 2000s. Benefits would decline less for low earners because people in the low lifetime earnings category are more likely to have claimed disability benefits, which are not affected by changes in the FRA.

Payable lifetime benefits relative to lifetime earnings would increase by a small amount for all people born in the 1960s and for low earners and people in the middle of the earnings distribution born in the 1980s; that ratio would increase by 5 percent for low earners born in the 2000s. The ratio would decrease slightly for people with high earnings born in the 1980s and decrease by 3 percent for high earners born in the 2000s.

Options That Would Change Cost-of-Living Adjustments

The four options in this section would affect the annual cost-of-living adjustments that are applied to existing benefits. Three options would change the measure of inflation used to calculate COLAs—one of those would partially offset the resulting reductions for long-time recipients of benefits. The fourth option would reduce COLAs for beneficiaries with high primary insurance amounts, slowing the growth in benefits for people with higher lifetime earnings.

79. Under this option, some workers who must delay claiming retired-worker benefits as a result of the increase in the EEA might be eligible to claim disability benefits as a result of illness or injury. Because the measure of initial benefits for retired workers in this report excludes people who have claimed disability benefits, the percentage change in the mean of initial benefits for retired workers would be slightly different for Option 27 and this option.

One argument for changing the measure of inflation is that the current metric, the consumer price index for urban wage earners and clerical workers, does not accurately reflect the ways that prices affect Social Security beneficiaries' cost of living. Many analysts believe that the CPI-W overstates increases in the cost of living. They assert that the index is subject to substitution bias—it does not fully account for consumers' lessening the impact of inflation either when they purchase fewer goods or services that become more expensive or when they substitute less costly goods and services. Some observers also argue that the CPI-W imposes an upward bias on COLAs—known as a small-sample bias—to the extent that it applies to price data for just a small proportion of goods in the overall economy.[80] Two of the options presented in this section would use the chained consumer price index for all urban consumers (CPI-U) to measure inflation. That index is designed to account for the ways that consumers generally adjust their spending as some prices change relative to others, and it is largely free of small-sample bias.

Another consideration in calculating COLAs is that the cost of living could grow faster for Social Security beneficiaries than for the rest of the population; a larger percentage of that group's spending is likely to be for medical care and for goods and services whose prices tend to rise faster than those for other goods and services purchased by average consumers. One option in this section would measure inflation using the CPI-E, the consumer price index for elderly consumers, which accounts for the spending patterns typically exhibited by people age 62 or older.

The arguments for changing the measure of inflation used to calculate COLAs are not mutually exclusive. It is conceivable that a measure of inflation could be created that eliminates the substitution bias and small-sample bias in the CPI-W and that better reflects the list of goods and services typically consumed by elderly or disabled people.

80. See Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 16, www.cbo.gov/budget-options/2014, *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 49–51, www.cbo.gov/budget-options/2013/44687, and testimony of Jeffrey Kling, Associate Director for Economic Analysis, Congressional Budget Office, before the Subcommittee on Social Security, House Committee on Ways and Means, *Using the Chained CPI to Index Social Security, Other Federal Programs, and the Tax Code for Inflation* (April 18, 2013), www.cbo.gov/publication/44083.

For any given beneficiary, the changes in scheduled annual benefits that would arise from these options would increase over time relative to such benefits under current law because of annual compounding of lower or higher COLAs over that beneficiary's lifetime. The difference would be most pronounced for beneficiaries who received benefits under a modification to the price index used to calculate COLAs for long periods, such as very old retirees or people who began to receive disability benefits at an early age. One option in this section would partially offset those benefit reductions by increasing benefits for people 20 years after they initially became eligible to collect benefits.

Under current law, the formula used to calculate the primary insurance amount for workers claiming retired-worker benefits is based on the year in which they turn 62—the early eligibility age to receive retired-worker benefits. If a worker delays claiming beyond the EEA, his or her PIA increases by the COLAs that would have applied to benefits claimed at age 62. (If a person works beyond age 62, his or her average indexed monthly earnings are calculated when benefits are claimed. That worker's PIA is then calculated using the PIA formula as of age 62, and that PIA increases by the COLAs from age 62 through the age at which he or she claims benefits.) If, for example, a worker became eligible to claim retired-worker benefits in 2013 and waited until 2015 to claim benefits, his or her PIA would be increased by the 1.5 percent COLA that applied to benefits in 2014, and then that amount would be increased again by the 1.7 percent COLA that applied to benefits in 2015. Thus, a change in COLAs would have a small effect on initial retired-worker benefits for people who wait until after the EEA to claim them. Resulting changes in benefits also would affect revenues from taxation of those benefits.

See Table 2 on page 23 for effects of the options on Social Security's finances, Table 3 on page 30 for effects on distributional outcomes under the assumption that scheduled benefits are paid, and Table 4 on page 36 for effects on distributional outcomes under the assumption that only payable benefits are paid.

Option 29: Base COLAs on the Chained CPI-U

Beginning in 2016, this option would link Social Security cost-of-living adjustments for all current and newly eligible retired and disabled workers and their dependents to a different measure of inflation—the chained consumer price index for all urban consumers, which is designed to account for the ways that consumers generally adjust

their spending as prices change. That index is also largely free of small-sample bias. CBO projects that the annual increase in the chained CPI-U, on average, will be 0.25 percentage points below that for the consumer price index for urban wage earners and clerical workers.[81]

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.2 percentage points in 2040, or by 3 percent, from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent improvement) but would not significantly extend the combined trust funds' currently projected exhaustion date of 2029.

Under this option, scheduled initial benefits would decline by a small amount for people who become eligible to claim retired-worker benefits in 2016 or later because workers' PIAs are increased by the COLAs from age 62 to the age at which they claim benefits. Scheduled lifetime benefits relative to lifetime earnings would be reduced by 3 percent to 4 percent for people born in the 1960s or later. The reductions in that ratio would be smaller for people who began collecting benefits before 2016 because they would be expected to receive the reduced COLA for fewer years than would a beneficiary who started collecting benefits in that year or later. Payable lifetime benefits relative to lifetime earnings would not change significantly for most beneficiaries.

Option 30: Base COLAs on the Chained CPI-U and Increase Benefits 20 Years After Initial Eligibility

Under Option 29, which would base cost-of-living adjustments on the chained consumer price index for all urban consumers, the largest reductions in benefits would apply to people who spent the longest amount of time as recipients after that option was implemented. For example, the annual benefit for a retired worker who became eligible to collect benefits at 62 would be about 5 percent smaller at age 82 if the COLA applied to his or her benefit was based on the chained CPI-U rather than on the consumer price index for urban wage earners and clerical workers, as under current law. This option is similar but includes a provision that would increase benefits for long-time recipients. The increase would partially offset the reductions in benefits for very old retirees and for people who claimed Disability Insurance benefits at an early age.

This option would take effect in 2016, and, in addition to linking the COLA to the chained CPI-U for all current and newly eligible retired and disabled workers and their dependents, this option would increase a person's benefit starting 20 years after initial eligibility by 1 percent of the primary insurance amount for an average-wage worker of the same age.[82] The recipient's benefit would increase annually by that amount for 5 years, permanently boosting the amount to which future COLAs are applied. The increase for most retired beneficiaries would begin at age 82 (20 years after 62, the early eligibility age for retirement benefits). Recipients of disability benefits, including those who converted to retired-worker status at the full retirement age, would receive the increase 20 years after they became entitled to DI benefits.

Under this option, Social Security's total outlays, measured as a share of GDP, would decrease by 0.1 percentage point in 2040, or by 2 percent from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.1 percentage point (about a 10 percent improvement) but it would not significantly extend the combined trust funds' currently projected exhaustion date of 2029.

Under this option, scheduled initial benefits would decline by a small amount for retired workers who became eligible to claim retired-worker benefits in 2016 or later because a worker's PIA is increased by the COLA from age 62 to the age at which he or she claims benefits. Scheduled lifetime benefits relative to lifetime earnings would be reduced the most for high earners—by 3 percent, on average. Payable lifetime benefits relative to lifetime earnings would increase by a small amount for low earners and decrease slightly for high earners in all birth cohorts.

81. Although CBO estimates a 0.25 percentage-point difference in the two indexes' rates of increase, the actual difference (and thus the effect of the option) could average more or less than that amount. For additional information, see Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), p. 16, www.cbo.gov/budget-options/2014, *Options for Reducing the Deficit: 2014 to 2023* (November 2013), pp. 49–51, www.cbo.gov/budget-options/2013/44687, and testimony of Jeffrey Kling, Associate Director for Economic Analysis, Congressional Budget Office, before the Subcommittee on Social Security, House Committee on Ways and Means, *Using the Chained CPI to Index Social Security, Other Federal Programs, and the Tax Code for Inflation* (April 18, 2013), www.cbo.gov/publication/44083.

82. This average-wage worker is a hypothetical person who earns the average wage starting at age 20 and continues to do so through the year before the initial eligibility age of the beneficiary who receives the increase in the PIA.

Option 31: Base COLAs on the CPI-E

Beginning in 2016, this option would link Social Security's cost-of-living adjustments for all current and newly eligible retired and disabled workers and their dependents to the consumer price index for elderly consumers. The CPI-E accounts for the spending patterns typically exhibited by people age 62 or older. CBO projects that the CPI-E will increase, on average, 0.17 percentage points faster per year than will the consumer price index for urban wage earners and clerical workers.[83]

Under this option, Social Security's total outlays, measured as a share of GDP, would increase by 0.1 percentage point in 2040, or by 2 percent from currently scheduled outlays. This option would worsen the 75-year actuarial balance, considered as a percentage of GDP, by 0.1 percentage point (about a 10 percent decline), but would not significantly accelerate the combined trust funds' currently projected exhaustion date of 2029.

Scheduled lifetime benefits relative to lifetime earnings under this option would be increased by 2 percent or 3 percent for people who were born in or after the 1960s. The increases in that ratio would be smaller for people who began collecting benefits before 2016 because that group would be expected to receive the increased COLA for fewer years than people who start collecting benefits in 2016 or later. Payable lifetime benefits relative to lifetime earnings would not change significantly for people who were born in the 1960s or later.

Option 32: Reduce COLAs for People With Higher PIAs

Beginning in 2016, this option would reduce the annual cost-of-living adjustment by 0.5 percentage points for all current and newly eligible retired beneficiaries with a primary insurance amount that was higher than the PIA for an average-wage worker of the same age.[84] Under this option, a beneficiary's COLA would never fall below zero. COLAs would be reduced for about 30 percent of beneficiaries in 2016; almost all of those beneficiaries would be retired workers.

Under this option, Social Security's total outlays, measured as a share of GDP, would decline by 0.1 percentage point in 2040, or by 2 percent from currently scheduled outlays. This option would improve the 75-year actuarial balance, considered as a share of GDP, by 0.1 percentage point (about a 10 percent improvement) but would not significantly extend the combined trust funds' currently projected exhaustion date of 2029.

Under this option, scheduled lifetime benefits relative to lifetime earnings would decrease by 4 percent or 5 percent for high earners, and that ratio would be essentially unchanged for low earners. Payable lifetime benefits relative to lifetime earnings would decline slightly for high earners. That ratio would increase by a small amount for low earners born in the 1960s and 1980s and by 3 percent for low earners born in the 2000s.

Options That Would Change Benefits for Specific Groups

The options in this section would change benefits for three particular groups of beneficiaries: people with low average annual earnings, survivors of deceased workers, and spouses of retired workers.

Options that would increase benefits are assumed to take effect in 2016 and would apply to all current and future beneficiaries. Options that would reduce benefits are assumed to take effect in 2023 for people who were born in 1961 and thus will reach the early eligibility age of 62 in that year.

In addition to their main effects on outlays, all of the options in this section would produce small effects on revenues because changes in benefits would affect the amounts collected in income taxes on those benefits. Although the effects on the system's finances overall would be small, the effects of these options would be significant for people in the relevant groups.

See Table 2 on page 23 for the effects of the options on Social Security's finances, Table 3 on page 30 for effects on distributional outcomes under the assumption that scheduled benefits are paid, and Table 4 on page 36 for effects on distributional outcomes under the assumption that only payable benefits are paid.

83. Although CBO estimates a 0.17 percentage-point difference in the two indexes' rates of increase, the actual difference (and thus the effect of the option) could average more or less than that amount. For additional information, see testimony of Jeffrey Kling, Associate Director for Economic Analysis, before the Subcommittee on Social Security, House Committee on Ways and Means, *Using the Chained CPI to Index Social Security, Other Federal Programs, and the Tax Code for Inflation* (April 18, 2013), www.cbo.gov/publication/44083.

84. This average-wage worker is a hypothetical person who earns the average wage starting at age 20 and continues to do so through the year before the initial eligibility of the beneficiary who receives the increase in the PIA.

Option 33: Introduce a New Poverty-Related Minimum Benefit

This option would replace the current-law special minimum primary insurance amount with a new benefit for workers whose earnings are relatively low over a long period. Under current law, workers receive the special minimum benefit if it is a larger amount than their benefit calculated under the standard benefit formula. In 2015, the highest PIA a newly eligible beneficiary could receive under the special minimum benefit was $830 per month. That benefit will increase over time with prices. Because the standard benefit formula increases with earnings, which tend to grow faster than prices, fewer people receive the special minimum benefit each year; just over 100 families had a newly entitled beneficiary receive this benefit in 2012, and the Social Security Administration projects that no newly eligible beneficiaries will receive the benefit after 2018.

The minimum PIA under this option would be $1,220 per month for someone with 120 quarters of coverage, thus requiring a beneficiary to have accumulated at least 30 years of earnings. That amount is about 125 percent of the projected poverty threshold for a single person age 65 or older in 2016. If a worker had fewer than 40 quarters of coverage, the benefit would be set at zero. Above 40 quarters and up to the maximum of 120 quarters, increments of 5 percent of the full minimum PIA would be added for every 4 quarters of coverage a worker had earned. Beneficiaries would receive the higher of the regular PIA or the new minimum PIA. In 2017 and later, the amount of the minimum PIA would rise to keep pace with average wages.

Under this option, Social Security's total outlays, measured as share of GDP, would increase by 0.2 percentage points in 2040, or by 3 percent from currently scheduled outlays. This option would worsen the 75-year actuarial balance, considered as a share of GDP, by 0.2 percentage points (about a 10 percent decline), but it would not significantly accelerate the exhaustion of the combined trust funds, currently projected for 2029.

Scheduled initial retired-worker benefits under this option would increase by an average of 10 percent for low earners born in the 1960s, by 27 percent for low earners born in the 1980s, and by 23 percent for low earners born in the 2000s. In 2040, about 30 percent of first-time Old-Age and Survivors Insurance participants and about 45 percent of new Disability Insurance participants would receive higher initial benefits than under current law; about 55 percent of those beneficiaries would be women. Payable lifetime benefits relative to lifetime earnings would be higher for low earners—by 8 percent for those born in the 1960s, 21 percent for those born in the 1980s, and 18 percent for those born in the 2000s—but would be 3 percent or 4 percent lower for high earners in those birth cohorts.

Option 34: Create an Alternative Benefit for Spouses of Deceased Workers

Beginning in 2016, this option would introduce an alternative benefit for deceased workers' spouses; current recipients would be eligible only if the new benefit increased their payments. Under this option, the alternative benefit would be calculated as 75 percent of the sum of the surviving spouse's own worker benefit and the benefit the deceased spouse would have received if still alive.[85] The amount would be capped at the primary insurance amount for an average-wage worker.[86] The survivor would receive the greater of two possible benefit amounts: the new alternative benefit or the current-law survivors' benefit. This option would generally provide higher benefits if both spouses had low lifetime earnings.

Under this option, Social Security's total outlays would increase slightly in 2040 from currently scheduled outlays. The option would slightly worsen the 75-year actuarial balance but it would not significantly accelerate the exhaustion of the combined trust funds, currently projected for 2029.

This report measures initial benefits for retired workers only on the basis of their own earnings—it does not include survivors' benefits—so for this analysis, scheduled initial retired-worker benefits under this option would remain unchanged for all people. For people in all birth cohorts, scheduled lifetime benefits relative to lifetime earnings (which include survivors' benefits) would increase slightly for low earners and for people in the middle of the earnings distribution. In 2040, about 40 percent of newly eligible survivor beneficiaries would receive higher benefits under this option than under current law; almost 90 percent of those beneficiaries would be

85. Benefits used in this calculation for both the surviving spouse and the deceased spouse include any reductions for claiming before the full retirement age and any delayed-retirement credits.

86. This average-wage worker is a hypothetical person who earns the average wage starting at age 20 and continues to do so through the year in which the deceased worker became eligible for retired-worker benefits.

women. (In 2040, about 90 percent of all newly eligible survivor beneficiaries will be women, CBO projects.) On average, in 2040, benefits would increase by about 20 percent for newly eligible survivor beneficiaries who received increased benefits under this option.

Payable lifetime benefits relative to lifetime earnings would increase slightly for most low earners and decrease by a small amount for high earners in any birth cohort.

Option 35: Limit the Survivors' Benefit

Beginning in 2023, this option would limit the survivors' benefit to 100 percent of the primary insurance amount for an average-wage worker.[87] The option would apply only to newly eligible beneficiaries. People who were older than 62 in 2023 and those receiving survivors' benefits before that year would not have their benefits limited by this option.

Under this option, Social Security's total outlays would decrease slightly in 2040 from currently scheduled outlays. This option would slightly improve the 75-year actuarial balance but it would not significantly extend the combined trust funds' currently projected exhaustion date of 2029.

This analysis measured initial benefits for retired workers only on the basis of their own earnings—CBO did not include survivors' benefits—so scheduled initial retired-worker benefits under this option would remain unchanged for all people. For people in all birth cohorts, scheduled lifetime benefits relative to lifetime earnings (which include survivors' benefits) would decrease slightly, on average, for high earners. In 2040, about one-fifth of beneficiaries newly eligible to receive survivors' benefits—about 90 percent of them women, according to CBO's projections—would receive benefits that were smaller than they would receive under current law. On average, in 2040, benefits would be almost 20 percent smaller for people whose survivors' benefits were limited under this option.

Payable lifetime benefits relative to lifetime earnings would decrease slightly for high earners in all birth cohorts.

87. This average-wage worker is a hypothetical person who earns the average wage starting at age 20 and continues to do so through the year in which the deceased worker became eligible for retired-worker benefits

Option 36: Reduce the Spousal Benefit

Beginning in 2023, this option would reduce payments to new beneficiaries who were entitled to receive spousal benefits. Under this option, after a 10-year phase-in period, an eligible spouse of a retired worker (the primary beneficiary) would be entitled to a spousal benefit of 33 percent of that primary beneficiary's primary insurance amount (instead of 50 percent, as under current law), so long as that surviving spouse was not eligible for a higher benefit on the basis of his or her own earnings. If the spouse also had earned benefits and his or her PIA was less than 33 percent of the primary beneficiary's PIA, the spouse's benefit would be increased to equal 33 percent of the primary beneficiary's PIA. Workers who had PIAs on the basis of their own earnings that were greater than or equal to 33 percent of a spouse's PIA would receive no additional benefit. Anyone older than 62 or currently receiving spousal benefits in 2023 would not be affected by this option.

This option would reduce benefits by one-third for people who received spousal benefits and were either not eligible for benefits based on their own earnings or whose PIAs, based on their own earnings, were less than 33 percent of their spouses' PIAs. The reduction would be less than one-third for people whose PIAs, based on their own earnings, were between 33 percent and 50 percent of their spouses' PIAs.

Under this option, Social Security's total outlays would decrease slightly in 2040 from currently scheduled outlays. This option would slightly improve the 75-year actuarial balance but it would not significantly extend the combined trust funds' currently projected exhaustion date of 2029.

For this report, CBO measured initial benefits for retired workers only on the basis of their own earnings—it did not include spousal benefits—so scheduled initial retired-worker benefits under this option would remain unchanged for all people. Scheduled lifetime benefits relative to lifetime earnings (which include spousal benefits) would decrease slightly for low earners born in the 1960s and for people in all categories of lifetime earnings born in the 1980s and 2000s. Payable lifetime benefits relative to lifetime earnings would not change significantly for most people in all birth cohorts.

Appendix A: The Disability Insurance Program's Finances

The Social Security Disability Insurance (DI) program provides income to disabled workers and to their dependents. At the end of October 2015, the program had 10.8 million beneficiaries: 8.9 million disabled workers, 1.7 million children of those workers, and about 140,000 spouses of those workers. In fiscal year 2015, the program paid $143 billion in benefits to those workers and their dependents. Those payments accounted for 98 percent of the Disability Insurance Trust Fund's outlays; administrative costs largely accounted for the rest.[1]

The DI trust fund's main source of revenues is the payroll tax: In fiscal year 2015, the trust fund received $114 billion from that tax.[2] The trust fund also receives smaller amounts from taxes on benefits (about $2 billion in fiscal year 2015) and interest credited on its balance (less than $3 billion in fiscal year 2015).

Outlook for Program Finances

In 2005, for the first time since 1993, DI outlays exceeded tax revenues credited to the program's trust fund, and that gap has persisted ever since. By 2009, outlays had outstripped tax revenues plus interest payments, and the trust fund's balance began to shrink. In fiscal year 2015 the trust fund's outlays were $28 billion more than its receipts (including interest payments).

From 2000 through 2015, 1.8 percentage points of the 12.4 percent payroll tax was allocated to the DI trust fund; the rest was credited to the Old-Age and Survivors Insurance (OASI) Trust Fund. (Workers and their employers pay half each; self-employed people pay the entire amount.) However, the Bipartisan Budget Act of 2015, which was enacted on November 2, 2015, will temporarily shift a 0.57 percentage-point share from the OASI trust fund to the DI trust fund.[3] The total payroll tax rate for the DI trust fund will thus be increased from 1.8 percent to 2.37 percent for calendar years 2016 through 2018, and the payroll tax rate for the OASI trust fund will be reduced by an equal amount in those years, from 10.6 percent to 10.03 percent. In calendar year 2019, the allocations to the two trust funds will revert to their prior amounts. As a result of the reallocation, CBO projects, the DI trust fund's receipts (including interest payments) will roughly equal outlays in fiscal year 2016 and exceed them in 2017 and 2018. Outlays will once again exceed receipts (including interest) when the reallocation ends in 2019, and the trust fund's balance will decline.

Before the enactment of the Bipartisan Budget Act of 2015, CBO had projected that the DI trust fund would be exhausted in fiscal year 2017 and that the OASI trust fund would be exhausted in calendar year 2031.[4] The agency now anticipates that the DI trust fund will be exhausted four years later, in fiscal year 2021, but that the OASI trust fund will be exhausted a year earlier, in

1. For a more detailed description and a discussion of the DI program and various policy options, see Congressional Budget Office, *Policy Options for the Social Security Disability Insurance Program* (July 2012), www.cbo.gov/publication/43421.

2. That $114 billion includes $2 billion that the government contributes as the employer's share of the payroll tax for federal workers. Those funds are recorded as offsetting receipts because they result from an intragovernmental transfer.

3. See Bipartisan Budget Act of 2015 (Public Law 114-74), www.congress.gov/bill/114th-congress/house-bill/1314; and Congressional Budget Office, cost estimate for H.R. 1314, the Bipartisan Budget Act of 2015 (October 28, 2015), www.cbo.gov/publication/50938. P.L. 114-74 will reduce the DI program's outlays by about $3 billion over the 2016–2025 period, CBO estimates. The largest change will arise from the requirement that the medical portions of all initial disability determinations be completed by a physician, psychiatrist, or psychologist, which will reduce the number of newly eligible beneficiaries.

4. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), www.cbo.gov/publication/50250.

calendar year 2030, than it had estimated previously.[5] Because total tax revenues would remain the same, CBO does not project a change from calendar year 2029 for the exhaustion of the combined OASDI trust funds. (Although the two trust funds are legally separate, in some parts of its analyses, CBO follows the common analytical convention of considering them as combined.)

If the DI trust fund's balance declined to zero in fiscal year 2021 and if the fund's current receipts were insufficient to cover benefits as specified in law, the Social Security Administration would no longer be permitted to pay full DI benefits when they were due. After the balance of the trust fund was exhausted, annual outlays therefore could not exceed annual receipts: Under those circumstances, all trust fund receipts would be spent and the balance would remain essentially at zero.[6] If the DI program's outlays in fiscal year 2022 were limited to receipts credited to the trust fund and if the Social Security Administration therefore limited outlays by reducing benefits, according to CBO's estimates, payments to beneficiaries would be 21 percent below the amounts scheduled under current law. The Social Security Act does not specify a formula for reducing total benefits under that scenario, so the Social Security Administration would need to determine exactly how to implement such a reduction. OASI payments would not be affected.

If current laws remained unchanged, alleviating the financial pressures on the DI program would require the government to substantially increase the program's revenues, substantially curtail the program's costs, or undertake some combination of those two actions. To forestall the DI trust fund's exhaustion by 25 years (to 2046), for example, beginning in 2016, outlays could be reduced by about 21 percent. Alternatively, the DI program's payroll tax rate could be increased by about 0.49 percentage points from 2.37 to 2.86 from 2016 through 2018 (a 21 percent increase) and from 1.8 to 2.29 thereafter (a 27 percent increase).

Effects of This Report's Options

Some of the options presented in this report would have a small effect on the DI program's finances before the trust fund's projected exhaustion date, but most would have no near-term effects of significance. Over the longer term, however, many of the options would substantially improve the program's finances.

The policy options that would either boost the payroll tax rate or increase the amount of a worker's earnings that are subject to the payroll tax (increase the taxable maximum, which, under current law, is $118,500 in 2015 and 2016) would take effect in 2016 and thus increase the amount of revenues credited to the DI trust fund starting in that year. In general, those options would forestall exhaustion of the DI trust fund by no more than a few years.

The options that would reduce initial DI benefits are designed to affect only beneficiaries who become newly eligible in or after 2023—two years beyond the DI trust fund's currently projected exhaustion date. Options that would cut cost-of-living adjustments beginning in 2016 would reduce DI benefits for current and future beneficiaries, but the reductions in outlays for DI benefits would initially be too small to significantly forestall exhaustion.

Some of this report's options could increase the number of DI beneficiaries and, all else being equal, the program's outlays. An increase in the full retirement age would affect payments of DI benefits by delaying the age at which beneficiaries converted to retired-worker status. Some workers who delayed claiming retirement benefits because of an increase in the full retirement age might be eligible, as a result of illness or injury, to claim DI benefits before claiming retirement benefits. Some options would directly increase the DI program's outlays by increasing benefits or boosting cost-of-living adjustments. Two—Option 22 and Option 33—would hasten the exhaustion of the DI trust fund by increasing benefits.

5. The change to the exhaustion date of the DI trust fund is based on the change in the share of the payroll tax rate received by the DI trust fund and other reductions in DI spending in title VIII, as a result of the enactment of P.L. 114-74.

6. Noah P. Meyerson, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report for Congress RL33514 (Congressional Research Service, August 2014), available in U.S. House of Representatives, Committee on Ways and Means, *2014 Green Book*, Chapter 1: Social Security, "Social Security Congressional Research Service Reports" (accessed December 9, 2015), http://go.usa.gov/cCXcG. That report notes the entitlement created under the Social Security Act, cites other laws that prohibit 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.

Other Policy Options for the DI Program

Policymakers could improve the DI program's finances by reducing the number of recipients. For example, new rules could require applicants to have worked more in recent years, prohibit workers from claiming DI benefits after the age of 61, raise the age at which disability requirements become less restrictive, or change the evaluation process. Policies that encouraged DI beneficiaries to return to work or that increased the number of continuing disability reviews could lead to more people leaving the program.

Instead, policymakers could reduce benefits for disabled workers or their dependents. (Several policy options in this report would change benefit calculations for all Social Security beneficiaries, including those who receive DI benefits.) For example, policymakers could reduce benefits paid to DI beneficiaries who are working on the basis of the amounts those recipients earn from work.

The structure of the DI program also could be changed. For example, a partial disability system could tie benefit amounts to the severity of a disability, add requirements for rehabilitation whenever possible, or focus on reemployment of newly disabled workers. Employers could be required to pay a share of their current or recent employees' disability benefits. The specifications of such changes would be critical factors in any estimates of short- or long-term effects on the program's finances, and some could increase the program's costs.

Alternatively, in light of the importance of DI benefits to the individuals and families who receive them, policymakers might want to provide greater amounts of support to certain disabled workers. For example, lawmakers could raise the annual cost-of-living adjustment for DI beneficiaries or could eliminate the five-month waiting period for benefits for workers who apply for disability insurance, thereby paying benefits to DI recipients from the date of onset of their disability.

Appendix B: Actuarial Fairness of Social Security Benefits

Under current law, an eligible worker can claim reduced Social Security retirement benefits upon reaching age 62 (the program's early eligibility age, or EEA). If someone waits until his or her full retirement age (FRA), the amount of benefits is equal to his or her full primary insurance amount (PIA). If someone waits beyond the FRA, the benefits are larger until the worker reaches age 70. Those differences in benefit amounts, known as actuarial adjustments, are made to reduce or increase benefits depending on the number of months between the age at which a recipient first claims benefits and that person's FRA. Thus, benefits are smaller for someone who claims between the EEA and the FRA and greater for a worker who makes an initial claim between the FRA and age 70.

The actuarial adjustments used today were set more than 50 years ago such that over a lifetime a retiree could expect to receive a roughly fixed amount in benefits regardless of the age at which benefits are first claimed.[1] Benefits adjusted in that way are said to be actuarially fair.[2]

To meet the goal of actuarial fairness, Social Security law reduces the PIA for early retirees by 5/9 of 1 percent for each month (6⅔ percent per year) up to a total of 36 months that a worker claims benefits in advance of the FRA. If the period exceeds 36 months, the PIA is further reduced by 5/12 of 1 percent per month (5 percent per year). The benefits of a recipient whose FRA is 66 and who first claims at 62 thus will be 25 percent less than his or her PIA every year to compensate for the four extra years of payments. By contrast, if someone chooses to delay until after reaching the FRA, that beneficiary receives a delayed-retirement credit that increases the payment by 8/12 of 1 percent for every month (8 percent per year) between the FRA and age 70. No additional credit is given if a person first claims benefits after turning 70.

The reality of actuarial fairness, however, is complicated by differences in life expectancy, such as that between men and women, and by the fact that the actuarial adjustments were set decades ago, when life expectancies for men and women alike were shorter. The Social Security Administration makes identical actuarial adjustments for men and women even though, for the most part, women can expect to live longer than men. A woman thus can anticipate receiving benefits over a longer period than her male counterpart can, so the adjustments might not be considered actuarially fair for all recipients.

Today, for example, the Congressional Budget Office estimates that, on average, a woman's life expectancy at age 62 is 23.2 years and that a man's at 62 is 20.4 years. Because of that difference, the amount of expected lifetime benefits will be greater for a woman whose initial claim occurs at the same age and for the same amount as that of her male counterpart.

Consider the following scenario: If a woman and a man each claim benefits at age 62 in 2015, both would see a 25 percent reduction in benefits, even though, on average, the woman would expect to receive benefits for

1. For this portion of the analysis, expected lifetime benefits are expressed as a present value—a single number that expresses a flow of past and future payments (in benefits) in terms of an equivalent lump sum paid at age 62. The value depends on the rate of interest, known as the discount rate, used to translate past and future cash flows into current dollars at that time. For this discussion, a person's age at death is based on a statistical calculation of life expectancy—the number of additional years, on average, that a man or woman would be expected to live beyond age 62.

2. For more discussion see Alicia H. Munnell and Steven A. Sass, *Can the Actuarial Reduction for Social Security Early Retirement Still Be Right?* Issue Brief 12-6 (Center for Retirement Research, Boston College, March 2012), http://tinyurl.com/nb3zhbe; and Frank W. Heiland and Na Yin, *Have We Finally Achieved Actuarial Fairness of Social Security Retirement Benefits and Will It Last?* Working Paper 2014-307 (Michigan Retirement Research Center, University of Michigan, April 2014), http://deepblue.lib.umich.edu/handle/2027.42/109395.

Table B-1.

Percentage Difference in the Present Value of Expected Lifetime Benefits for Retired Workers at Various Claim Ages Relative to Their Full Retirement Age

Birth Year	Full Retirement Age	Claim Age								
		62	63	64	65	66	67	68	69	70
					Men					
1953	66	-2	-2	*	*	0	*	-1	-2	-5
1978	67	-5	-4	-3	-1	*	0	1	1	*
					Women					
1953	66	-5	-4	-2	-1	0	1	1	1	-1
1978	67	-7	-6	-5	-3	-1	0	1	2	2

Source: Congressional Budget Office.

Notes: For this portion of the analysis, expected lifetime benefits are expressed as a present value—a single number that expresses a flow of past and future payments (in benefits) in terms of an equivalent lump sum paid at age 62.

* = between -0.5 and 0.5 percentage points.

almost 3 years longer than the man would. CBO estimates that the woman would expect to receive almost 10 percent more than her male counterpart over a lifetime. If each of them waited until age 70 (in 2023) to claim initial benefits, the present value of the woman's expected lifetime benefits would be 18 percent greater than that for the man.

Consider another case: A man born in 1953, who reaches the EEA of 62 in 2015, will reach the FRA of 66 in 2019. He would receive 100 percent of his PIA if he waited until 2019 to claim benefits, but just 75 percent if he claimed this year, at age 62. In the latter case, the present value of his expected lifetime benefits would be 2 percent lower than if he waited until his FRA to claim his initial benefits (see Table B-1). If that same man waited until age 70 and was then eligible for the full delayed-retirement credit, the expected present value of his benefits would be 3 percent lower than if he claimed at the EEA and 5 percent lower than if he claimed at the FRA—even though the adjustments are intended to make all of those present values equal.

Contrast that with his female counterpart: If she claimed benefits in 2015 at the EEA, the expected present value of her lifetime benefits would be 5 percent lower than if she waited until reaching the FRA of 66 in 2019. If she waited until age 70, the expected present value would be 4 percent higher than if she claimed at age 62 but only slightly lower than if she claimed at age 66.

The fairness of the actuarial adjustments will continue to shift as the FRA increases to 67 and as life expectancies increase. A man who was born in 1978 will reach the EEA in 2040. If he claimed benefits then, the expected present value of those benefits would be 5 percent lower than if he waited until his FRA. If he waited until age 70, the expected present value would be more than 4 percent higher than if he claimed benefits at the EEA but about the same as if he claimed at the FRA. If a woman born in 1978 claimed benefits at the EEA, the expected present value would be 7 percent lower than if she waited until her FRA. If she waited until age 70, the expected present value would be 9 percent higher than if she claimed benefits at the EEA and 2 percent higher than if she claimed at her FRA.

Another complication is that the present value of expected lifetime benefits depends on the discount rate used in the calculation.[3] All else being equal, a higher rate would decrease the present value for all claim ages and for later ages relative to the present value at earlier claim ages. The opposite is true for lower discount rates: The present value of a worker's expected lifetime benefits would increase for all claim ages and the increase would be smaller at earlier than at later claim ages.

3. To compute present values for this analysis, CBO used a discount rate that is equal to the effective rate on federal debt. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Appendix A, www.cbo.gov/publication/50250.

Appendix C: Effects of the Policy Options on the Actuarial Balance of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

The main text of this report discusses the effects that the Congressional Budget Office estimates for 36 policy options on the 75-year actuarial balance of the trust funds for Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI), when considered as the combined OASDI trust funds (see Table 2 on page 23).[1] As part of its analysis, CBO also projected the effects of each option on the two trust funds separately (see Table C-1 on page 79). By itself, no option in this report could create long-term stability by eliminating the 75-year actuarial imbalance for either trust fund. Only six options would eliminate 40 percent or more of the actuarial imbalance in the OASI trust fund:

- Option 2: Increase the payroll tax rate by 2 percentage points over 10 years
- Option 7: Tax covered earnings above the taxable maximum; create a two-component system for calculating the primary insurance amount (PIA)
- Option 8: Tax covered earnings above the taxable maximum; do not increase benefits
- Option 18: Implement pure price indexing of initial benefits
- Option 19: Implement progressive price indexing of initial benefits for the top 70 percent of earners
- Option 22: Add an additional bend point to the PIA formula and reduce the PIA factors

Three of those options (Options 7, 8, and 18) also would reduce the actuarial imbalance in the DI trust fund by at least 40 percent, as would two others:

- Option 6: Eliminate the taxable maximum
- Option 21: Index the bend points in the PIA formula to prices

Although some policy options would affect people who received DI benefits because those options affect all Social Security beneficiaries, CBO did not examine any proposals that would be specific to the DI program alone.

For 26 policy options, the percentage change in the 75-year actuarial balance was greater for the OASI trust fund than for the DI trust fund—in many cases, much greater. Some, such as those that involve progressive price indexing, would affect high earners more than low earners, and because high earners are less likely than low earners are to claim DI benefits, those options would have a larger effect on the OASI trust fund. Other options, such as those that would raise the full retirement age, would reduce retirement benefits but would not change disability

1. The actuarial balance is the difference between a trust fund's income rate and cost rate. The income rate is the present value of annual tax revenues over the 75-year period plus the initial balance in the trust fund for that period, each of which is divided by the present value of gross domestic product or taxable payroll. The cost rate is the present value of annual outlays for the period, plus the present value of a year's worth of benefits as a reserve at the end of the 75 years, each of which is divided by the present value of gross domestic product or taxable payroll.

benefits. Because the increase in the age at which a beneficiary's status converts from disabled to retired worker under those options, and because more people would claim disability benefits as a result, the actuarial balance of the DI trust fund would worsen under options that raised the full retirement age.

For the remaining 10 options, the change in the 75-year actuarial balance was greater for the DI trust fund than for the OASI trust fund. Some options, such as Option 33, which would introduce a new special minimum benefit, would affect low earners more than high earners, and because low earners are more likely than high earners to claim DI benefits, options that affect them would have a larger effect on the DI trust fund.

Table C-1.

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the		
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund
	Current Law[a]		
	-1.45	-1.23	-0.22

	Percentage-Point Change From Outcome Under Current Law			Percentage Improvement in the 75-Year Actuarial Balance[b]
Change the Taxation of Earnings				
1 Increase the Payroll Tax Rate by 1 Percentage Point	0.32	0.28	0.04	
2 Increase the Payroll Tax Rate by 2 Percentage Points Over 10 Years	0.59	0.52	0.08	
3 Increase the Payroll Tax Rate by 3 Percentage Points Over 60 Years	0.54	0.47	0.07	
4 Raise the Taxable Maximum to Cover 90 Percent of Earnings	0.33	0.26	0.07	
5 Raise the Taxable Maximum to Cover 90 Percent of Earnings; Do Not Increase Benefits	0.53	0.45	0.08	
6 Eliminate the Taxable Maximum	0.59	0.45	0.13	
7 Tax Covered Earnings Above the Taxable Maximum; Create a Two-Component System for Calculating the PIA	0.87	0.73	0.14	

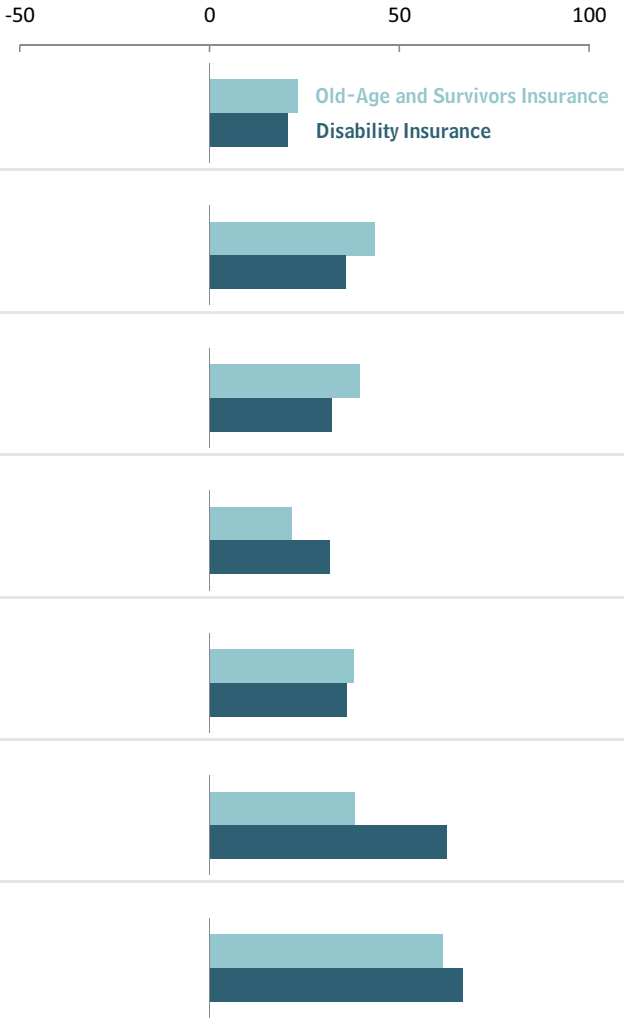


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Table C-1. Continued

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the		
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund
	Current Law[a]		
	-1.45	-1.23	-0.22

	Percentage-Point Change From Outcome Under Current Law			Percentage Improvement in the 75-Year Actuarial Balance[b]
Change the Taxation of Earnings (Continued)				-50 0 50 100
8 Tax Covered Earnings Above the Taxable Maximum; Do Not Increase Benefits	1.01	0.86	0.15	
9 Tax Covered Earnings Above the Taxable Maximum at 4 Percent; Do Not Increase Benefits	0.33	0.28	0.05	
10 Tax Covered Earnings Above $250,000 at 4 Percent; Do Not Increase Benefits	0.18	0.15	0.03	
Change the Benefit Formula				
11 Raise From 35 to 40 the Years of Earnings Included in the AIME	0.13	0.13	*	
12 Index Earnings in the AIME Formula to Prices	0.21	0.18	0.04	
13 Apply the Social Security Benefit Formula to Individual Years of Earnings	0.17	0.15	0.03	
14 Reduce All PIA Factors by 15 Percent	0.52	0.43	0.09	

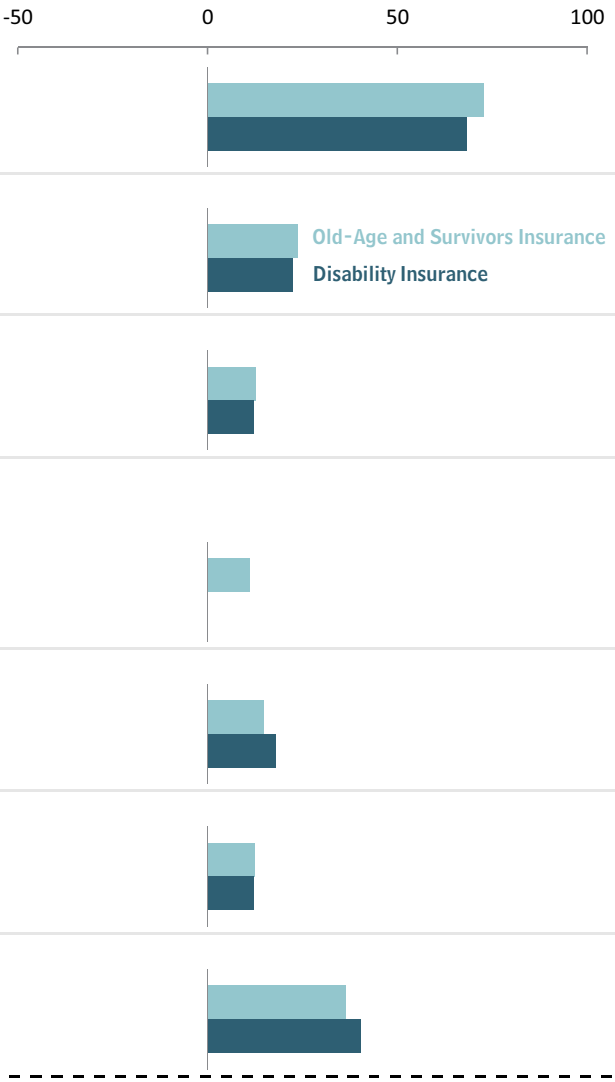

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Table C-1. Continued

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the				
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund	Percentage-Point Change From Outcome Under Current Law	Percentage Improvement in the 75-Year Actuarial Balance[b]
	Current Law[a]				
	-1.45	-1.23	-0.22		
Change the Benefit Formula (Continued)					
15 Reduce the Top PIA Factor to 10 Percent	0.06	0.06	*		
16 Reduce All PIA Factors by 0.5 Percent Annually	0.47	0.39	0.09		
17 Index Initial Benefits to Changes in Longevity	0.28	0.28	*		
18 Implement Pure Price Indexing of Initial Benefits	1.09	0.89	0.20		
19 Implement Progressive Price Indexing of Initial Benefits for the Top 70 Percent of Earners	0.62	0.54	0.08		
20 Implement Progressive Price Indexing of Initial Benefits for the Top 50 Percent of Earners	0.48	0.43	0.05		
21 Index the Bend Points in the PIA Formula to Prices	0.53	0.44	0.09		

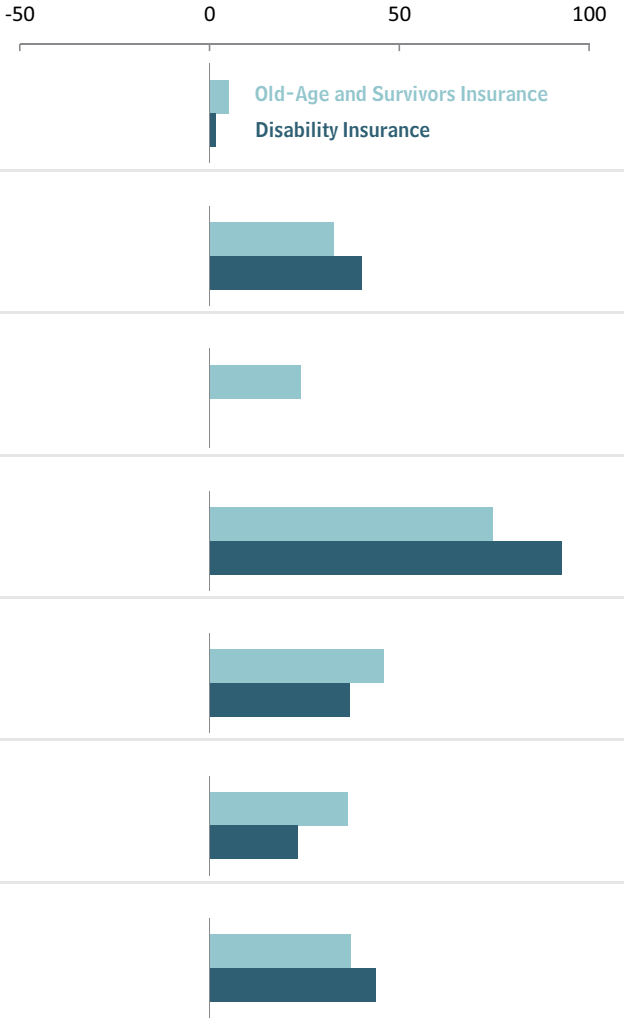

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Table C-1. **Continued**

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the				
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund	Percentage-Point Change From Outcome Under Current Law	Percentage Improvement in the 75-Year Actuarial Balance[b]
	Current Law[a]				
	-1.45	-1.23	-0.22		
Change the Benefit Formula (Continued)					
22					
Add an Additional Bend Point to the PIA Formula and Reduce the PIA Factors	0.60	0.54	0.06		
23					
Increase the First Bend Point in the PIA Formula by 15 percent	-0.27	-0.22	-0.05		
24					
Replace the Current PIA Formula With a New Two-Part Formula	0.23	0.22	*		
Raise the Full Retirement Age					
25					
Raise the FRA to 68	0.18	0.18	*		
26					
Raise the FRA to 70	0.45	0.45	*		
27					
Increase the FRA by One Month per Birth Year	0.40	0.40	*		
28					
Increase the FRA and the EEA by One Month per Birth Year	0.37	0.38	-0.01		

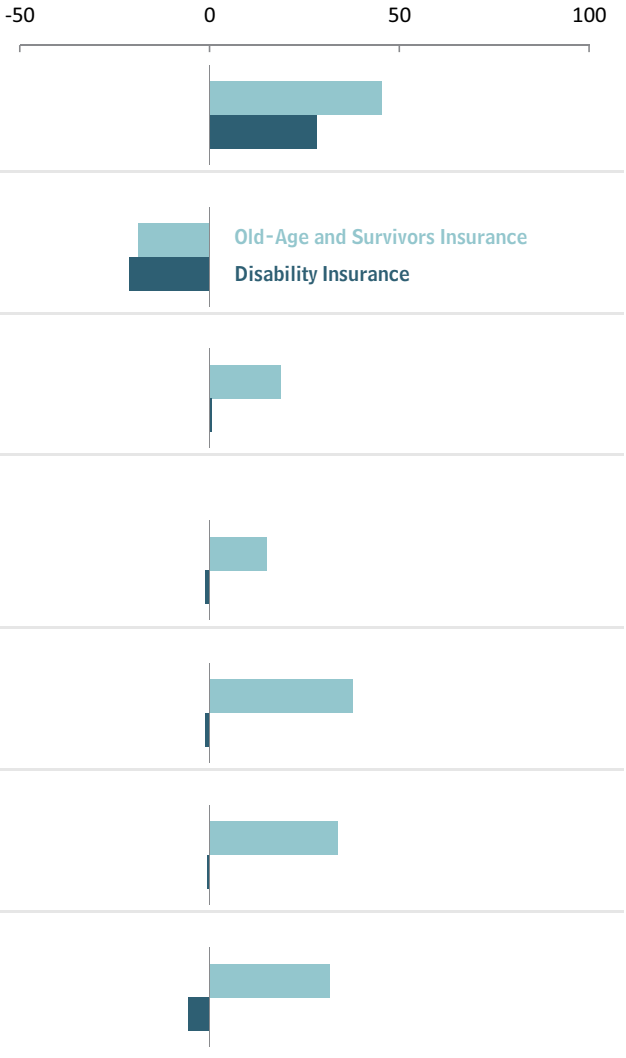

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Table C-1. Continued

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the			Percentage-Point Change From Outcome Under Current Law			Percentage Improvement in the 75-Year Actuarial Balance[b]
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund	Combined Trust Funds	OASI Trust Fund	DI Trust Fund	
	Current Law[a]						-50 0 50 100
	-1.45	-1.23	-0.22				
Change Cost-of-Living Adjustments							
29							
Base COLAs on the Chained CPI-U				0.18	0.17	0.01	
30							
Base COLAs on the Chained CPI-U and Increase Benefits 20 Years After Initial Eligibility				0.11	0.10	0.01	
31							
Base COLAs on the CPI-E				-0.13	-0.12	-0.01	
32							
Reduce COLAs for People With Higher PIAs				0.13	0.13	*	
Change Benefits for Specific Groups							
33							
Introduce a New Poverty-Related Minimum Benefit				-0.20	-0.13	-0.07	
34							
Create an Alternative Benefit for Spouses of Deceased Workers				0.02	0.02	*	
35							
Limit the Survivors' Benefit				0.04	0.04	*	

Old-Age and Survivors Insurance
Disability Insurance

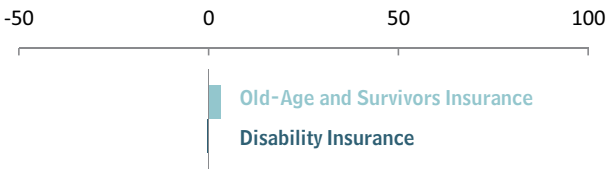
Continued

Table C-1. **Continued**

Effects of the Policy Options on the Actuarial Balances of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Individually and Combined

Percentage of Gross Domestic Product

	75-Year Actuarial Balance of the					
	Combined Trust Funds	OASI Trust Fund	DI Trust Fund	Combined Trust Funds	OASI Trust Fund	DI Trust Fund
	Current Law[a]			Percentage-Point Change From Outcome Under Current Law		
	-1.45	-1.23	-0.22			
Change Benefits for Specific Groups (Continued)						
36						
Reduce the Spousal Benefit	0.04	0.04	*			



Source: Congressional Budget Office.

Notes: The actuarial balance is the difference between the income rate and the cost rate. The income rate is the present value of annual tax revenues over the 75-year period plus the initial balance in the trust fund for that period, each of which is divided by the present value of gross domestic product or taxable payroll. The cost rate is the present value of annual outlays for the period, plus the present value of a year's worth of benefits as a reserve at the end of the 75 years, each of which is divided by the present value of gross domestic product or taxable payroll.

Details of specific options are contained in the text; definitions of terms are in the glossary.

AIME = average indexed monthly earnings; COLA = cost-of-living adjustment; CPI-E = consumer price index for elderly consumers; CPI-U = consumer price index for all urban consumers; DI = Disability Insurance; EEA = early eligibility age; FRA = full retirement age; OASI = Old-Age and Survivors Insurance; PIA = primary insurance amount; * = between -0.005 and 0.005 percentage points.

a. "Current law" refers to current provisions of the Social Security Act for calculating benefits and payroll taxes. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Chapter 3, www.cbo.gov/publication/50250.

b. Each bar illustrates the change in the 75-year actuarial balance for the OASI or DI trust fund that is attributable to an option as compared with the outcome under current law. A positive value indicates that the option improves the program's finances over the 2015–2089 period; a negative value indicates that the option worsens the program's finances.

Appendix D: Distributional Effects of Options With Similar Effects on the System's Finances

The 36 policy options discussed in the main portion of this study would have a variety of effects on the finances of the Social Security system. The distributional trade-offs become clearer, however, if the options are compared while their overall effects on the system's finances are held constant. Therefore, in another exercise, the Congressional Budget Office compared the distributional effects of 8 additional policy options it derived from the original 36 with the objective of producing a single effect on the actuarial balance: Each would reduce the 75-year actuarial deficit, relative to that under current law, by about one-quarter, or by 0.35 percent of gross domestic product (see Table D-1 on page 87). The implementation dates and phase-in periods would be same as those for the corresponding options in the main body of this report.

Option 1a: Increase the payroll tax rate by 1.1 percentage points; Option 1 calls for an increase of 1 percentage point in the payroll tax.

Option 4a: Raise the taxable maximum to cover 91 percent of earnings, phased in over a 10-year period starting in 2016; Option 4 would raise the taxable maximum to cover 90 percent of earnings.

Option 5a: Raise the taxable maximum to cover 87 percent of earnings, phased in over a 10-year period starting in 2016, and do not increase benefits; Option 5 would raise the taxable maximum to cover 90 percent of earnings and would not increase benefits.

Option 9a: Apply a 4.4 percent tax to all covered earnings above the taxable maximum, phased in over a 10-year period starting in 2016, and do not increase benefits; Option 9 would apply a 4.0 percent tax.

Option 14a: Reduce all of the primary insurance amount (PIA) factors by 10.5 percent, phased in over a 10-year period starting in 2023; Option 14 would reduce them by 15 percent.

Option 20a: Implement progressive price indexing to lower initial benefits for the top 37 percent of earners, starting in 2023; Option 20 would implement progressive price indexing for the top 50 percent of earners.

Option 26a: Starting for people born in 1961, increase the full retirement age (FRA) by two months per birth year until it reached age 69; Option 26 would increase the FRA to age 70.

Option 29a: Reduce cost-of-living adjustments (COLAs) by 0.52 percentage points, starting in 2016; Option 29 (which would base COLAs on an index different from the one in use under current law) would reduce COLAs by an estimated 0.25 percentage points.

The first four options—Options 1a, 4a, 5a, and 9a—would primarily affect payroll taxes. (The increase in the taxable maximum in Option 4a also would result in higher benefits.) In general, increasing taxes in 2016 would have a smaller effect on workers born before the 1980s than on younger workers because more years of earnings for people in the younger groups would be subject to higher taxes. Option 1a would increase lifetime taxes relative to lifetime earnings by a similar proportion for all workers whose earnings were below the taxable maximum (now $118,500). The other three options affecting payroll taxes, by contrast, would increase lifetime taxes relative to earnings mainly for high earners, and the effects of the taxes on covered earnings above the taxable maximum would be more concentrated among the very highest earners.

The other four options—Options 14a, 20a, 26a, and 29a—would affect benefits but not payroll taxes. Changes to the benefit formula and the FRA would affect future beneficiaries only, whereas changes in COLAs would reduce benefits for existing and future beneficiaries. Reducing all of the PIA factors (as in Option 14a) would have similar effects on lifetime benefits relative to lifetime earnings for people in all birth cohorts who were eligible to claim benefits starting in 2032, the year that policy would be fully phased in, regardless of their earnings.[1]

In contrast, using progressive price indexing to reduce benefits for the top 37 percent of earners (as in Option 20a) would curtail lifetime benefits relative to lifetime earnings for high earners but not significantly for low earners. Under this option, the reductions to that ratio would be larger for people in later birth cohorts.

Option 26a, a phased-in increase in the FRA, would reduce scheduled lifetime benefits relative to lifetime earnings less for low earners than for high earners in the same birth cohort because workers who claim disability benefits before age 62 are exposed to fewer years of reductions to PIA factors than are those who claim later, and people who claim Disability Insurance benefits are more likely to have been low earners than high earners. Moreover, a gradual increase in the FRA would lead to a greater reduction in benefits for people born later.

Reducing COLAs (as in Option 29a) would have similar effects on lifetime benefits relative to lifetime earnings, regardless of how much people earned. That ratio would be reduced less for people who were eligible to claim benefits before the COLAs were reduced than for those first eligible to claim benefits after the policy took effect.

1. For people who were eligible to claim benefits during the phase-in period, Option 14a would make a smaller reduction in scheduled lifetime benefits relative to lifetime earnings for low earners than for high earners. Low earners are more likely to claim Disability Insurance benefits and the reduction to the PIA factors would be smaller at the time they claimed those benefits than for people in the same birth cohort who waited at least until they reached the earliest eligibility age (62 under current law) and then claimed retired-worker benefits.

Table D-1.

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options That Have Similar Effects on the System's Finances

Percent

	Lifetime Household Earnings Quintile[a]	Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[b]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[b]		
		1960	1980	2000	1960	1980	2000
		Current Law[c]					
	Low	30	36	38	12	12	12
	Middle	16	20	20	12	12	12
	High	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[d]					
Change the Taxation of Earnings							
1a							
Increase the Payroll Tax Rate by	Low	*	*	*	2	6	9
1.1 Percentage Points[e]	Middle	*	*	*	2	7	9
	High	*	*	*	3	8	9
4a							
Raise the Taxable Maximum to	Low	*	*	*	*	*	*
Cover 91 Percent of Earnings[e]	Middle	*	*	1	*	*	1
	High	8	17	20	14	31	37
5a							
Raise the Taxable Maximum to	Low	*	*	*	*	*	*
Cover 87 Percent of Earnings;	Middle	*	*	*	*	*	1
Do Not Increase Benefits[e]	High	*	*	*	9	18	21
9a							
Tax Covered Earnings Above the	Low	*	*	*	*	*	*
Taxable Maximum at 4.4 Percent;	Middle	*	*	*	*	*	*
Do Not Increase Benefits[e]	High	*	*	*	12	19	23
Change the Benefit Formula							
14a							
Reduce All PIA Factors by 10.5 Percent	Low	-2	-8	-10	*	*	*
	Middle	-3	-10	-10	*	*	*
	High	-4	-10	-10	*	*	*
20a							
Implement Progressive Price Indexing of Initial	Low	*	*	*	*	*	*
Benefits for the Top 37 Percent of Earners	Middle	-1	-2	-4	*	*	*
	High	-4	-21	-30	*	*	*

Continued

Table D-1. **Continued**

Changes to Social Security's Scheduled Benefits and Payroll Taxes for Different Groups Under Various Options That Have Similar Effects on the System's Finances

Percent

	Lifetime Household Earnings Quintile[a]	Mean Lifetime Benefits Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[b]			Mean Lifetime Payroll Taxes Relative to Lifetime Earnings for All Beneficiaries by 10-Year Birth Cohort[b]		
		1960	1980	2000	1960	1980	2000
		Current Law[c]					
	Low	30	36	38	12	12	12
	Middle	16	20	20	12	12	12
	High	7	8	8	7	8	7
		Percentage Change From Outcome Under Current Law[d]					
Raise the Full Retirement Age							
26a							
Raise the FRA to 69	Low	-3	-7	-6	*	*	*
	Middle	-4	-9	-9	*	*	*
	High	-5	-10	-10	*	-1	-1
Change Cost-of-Living Adjustments							
29a							
Reduce COLAs by 0.52 Percentage Points	Low	-6	-8	-8	*	*	*
	Middle	-7	-8	-8	*	*	*
	High	-8	-8	-8	*	*	*

Source: Congressional Budget Office.

Notes: Scheduled benefits are benefits as calculated under the provisions of the Social Security Act, regardless of balances in the Social Security trust funds. For this analysis, CBO follows the common analytical convention of considering the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund as combined, even though legally they are separate.

Mean values are within a group.

Details of specific options are contained in the text; definitions of terms are in the glossary.

COLA = cost-of-living adjustment; FRA = full retirement age; PIA = primary insurance amount; * = between -0.5 percent and 0.5 percent.

a. The lowest, middle, and highest fifths of people ranked by lifetime household earnings, within a 10-year birth cohort. The distribution of lifetime household earnings includes only people who live at least to age 45.

b. The present value of a person's lifetime benefits or payroll taxes as a percentage of the present value of his or her lifetime earnings. Lifetime Social Security benefits include all benefits except those received by young widows and children, which are excluded from this measure because there are insufficient data for years before 1984. Lifetime benefits are net of income taxes paid on those benefits. Payroll taxes consist of the employer's and employee's shares combined. To calculate present value, amounts are adjusted for inflation as measured by the price index for personal consumption expenditures (to produce constant dollars) and discounted to age 65.

c. "Current law" refers to current provisions of the Social Security Act for calculating benefits and payroll taxes. See Congressional Budget Office, *The 2015 Long-Term Budget Outlook* (June 2015), Chapter 3, www.cbo.gov/publication/50250.

d. Each option's effect is measured as a percentage change from the current-law value. For example, under current law, the mean lifetime payroll tax relative to lifetime earnings for low earners born in the 2000s will be 12 percent. For Option 1a, the 1.1 percentage-point increase in that ratio is expressed as a 9 percent increase in this table.

e. In this analysis, because total compensation remains fixed, changes to payroll taxes paid by the employer, which are considered part of total compensation, reduce cash wages. The reduction in cash wages results in lower payroll taxes and in decreased benefits.

Glossary

actuarial adjustments: The reductions or increases to a worker's primary insurance amount (PIA) that depend on the number of months between the age at which a recipient first claims benefits and his or her full retirement age (FRA). The benefits of a worker who claims before reaching the FRA are reduced by 5/9 of 1 percent for each month (6⅔ percent per year) up to a total of 36 months before the FRA. If that period exceeds 36 months, the benefit amount is further reduced by 5/12 of 1 percent per month (5 percent per year). People who were born in 1943 or later and who claim benefits after reaching their FRA generally receive a delayed-retirement credit that amounts to 8/12 of 1 percent of the PIA for each month (8 percent per year) after the FRA that they delay claiming, up to the age of 70.

actuarial balance: The sum of the present value of annual tax revenues over a specified period and the initial balance in the trust fund for that period, minus the sum of the present value of annual outlays over that period and the present value of a year's worth of benefits at the end of the period. That difference is traditionally presented as a percentage of the present value of taxable payroll or gross domestic product over the same period. For this study, CBO calculated the actuarial balance for a period of 75 calendar years—from 2015 to 2089.

actuarial fairness: The condition under which the present value of a person's Social Security benefits over a lifetime would be equal without respect to the age at which he or she first claims benefits.

average indexed monthly earnings (AIME): A measure of taxable earnings over a person's lifetime that is used to set Social Security benefits. The AIME for a retired-worker beneficiary is calculated from the recipient's 35 years with the highest earnings subject to Social Security payroll taxes. Taxable earnings before age 60 are indexed to growth in average wages; earnings at age 60 and later enter the computations at their nominal amounts. Dividing the total earnings (after indexing) by 420 (35 years multiplied by 12 months) yields the AIME for a retired worker. For a disabled worker, the number of years of earnings included in the calculation depends on the age at which that person becomes eligible for disability benefits. Taxable earnings that were credited more than two years before the initial benefit computation are indexed to growth in average wages; earnings for the two years that precede the initial benefit computation enter the computations at their nominal amounts. A period of less than 35 years is used in the AIME calculation for a worker who claims retired-worker benefits after having previously claimed disability benefits but then recovered and left the disability rolls.

average wage index (AWI): An index that measures the average amount of total wages in the United States in a calendar year, including earnings in employment not covered by Social Security. Several automatic adjustments under Social Security law are based on the AWI.

baby-boom generation: The group of people who were born between 1946 and 1964.

bend point: The threshold at which a primary insurance amount factor changes. Under current law, there are two in 2015: $826 and $4,980. Bend points change annually to keep pace with changes in the average earnings of the workforce as a whole.

birth cohort: A group of people born in a given period. This analysis focuses on people placed into one of three 10-year birth cohorts: the 1960s cohort, people born between 1960 and 1969; the 1980s cohort, people born between 1980 and 1989; or the 2000s cohort, people born between 2000 and 2009.

consumer price index (CPI): A cost-of-living index commonly used to measure inflation. The Bureau of Labor Statistics publishes several such indexes, including the *CPI-W*, which is based on a typical market basket of goods and services consumed by urban wage earners and

clerical workers. Some automatic adjustments in Social Security, notably its cost-of-living adjustments, are based on the CPI-W. The *CPI-U* is based on a typical market basket of goods and services consumed by all urban consumers. The *chained CPI-U* is similar, but it accounts for the ways that consumers generally adjust their spending as some prices change relative to others. The *CPI-E* is based on a typical market basket of goods and services consumed by elderly consumers, accounting for spending patterns of people age 62 or older.

cost-of-living adjustment (COLA): Under current law, an annual increase in benefits that is tied to changes in the consumer price index for urban wage earners and clerical workers (CPI-W). The adjustment is applied to December payments, which beneficiaries receive in January, and it reflects growth in the CPI-W from the third quarter of the last calendar year in which a nonzero COLA was determined to the third quarter of the current year. If there is no increase in the CPI-W over that period, the COLA is set at zero, and benefits do not increase.

covered earnings: Earnings (in wages or self-employment income) from employment that is subject to Social Security taxation.

delayed-retirement credit: A credit that permanently increases benefits by 8/12 of 1 percent for each month (8 percent per year) a worker delays claiming beyond the full retirement age, up to age 70; no additional credit is given if a person first claims benefits after age 70.

Disability Insurance Trust Fund: One of two Social Security trust funds, it finances the activities of the Disability Insurance (DI) program.

early eligibility age (EEA): The earliest age (62, under current law) at which someone may claim retired-worker benefits.

full retirement age (FRA): The age at which a person becomes entitled to claim full retirement benefits (which are equal to the primary insurance amount); also called the normal retirement age. That age is set according to the year in which a person was born. Under current law, for workers born before 1938, the FRA is 65. For workers born between 1938 and 1943, the FRA increases by two months for each successive birth year, until it reaches age 66 for people born in 1943. The FRA remains at age 66 for workers born between 1943 and 1954, and then, starting with people born in 1955, it increases by two months for each successive birth year, until it reaches age 67 for people born in or after 1960. For people turning 62 in 2015 the FRA is 66. The FRA will begin to increase for people turning 62 in 2017, and it will reach age 67 for those turning 62 in 2022.

gross domestic product (GDP): The total market value of goods and services produced domestically in a given period.

initial benefits: For retired workers, benefits that would be received by workers eligible to claim Old-Age Insurance benefits who have not yet claimed any other Social Security benefits (such as disability benefits or survivors' benefits). For this study, CBO calculated benefits under the simplifying assumption that all workers would claim benefits at age 65. The initial benefit amount is based on a worker's own earnings only through age 61 and is net of income taxes paid on those benefits. For disabled beneficiaries, initial benefits are benefits at the time of initial benefit receipt, net of any income taxes paid on those benefits.

life expectancy: The number of additional years a person is expected to live after reaching a given age.

lifetime benefits: The present value at age 65 of benefits received over a lifetime for a person who lives at least to age 45, net of income taxes paid on those benefits. Lifetime benefits include retired-worker benefits, disabled-worker benefits, and benefits paid to dependents and survivors of workers. Because there are insufficient data on benefits received by young widows and children for years before 1984, benefits paid to young widows, spouses of disabled workers, and child beneficiaries are excluded from this measure.

lifetime earnings: The present value at age 65 of inflation-adjusted earnings over a lifetime, including earnings above the taxable maximum, for a person who lives at least to age 45.

lifetime household earnings: For someone who is single in all years, the present value of his or her inflation-adjusted earnings over a lifetime, including earnings above the taxable maximum. In any year in which a person is married, lifetime household earnings consist of the couple's inflation-adjusted earnings (adjusted for economies of scale in household consumption).

lifetime household earnings quintile: A division of the population (consisting of all people who live at least to age 45) into one of five groups ranked according to lifetime household earnings. For this study, "low earners" were people in the bottom quintile; "high earners" were people in the top quintile.

lifetime payroll taxes: For this study, the present value at age 65 of Social Security payroll taxes paid by the employer and the employee over a lifetime for a person who lives at least to age 45. The worker's portion of the payroll tax was reduced by 2 percentage points for 2011 and 2012 (as was the tax paid by self-employed workers). For lifetime payroll taxes, workers are assumed to have paid the full amount of the payroll tax in 2011 and 2012.

Old-Age and Survivors Insurance Trust Fund: One of two Social Security trust funds, it finances the activities of the Old-Age and Survivors Insurance (OASI) program.

payable benefits: Benefits as calculated under current law, reduced as necessary to conform to the limits imposed by a trust fund's balance. 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 be permitted to pay full benefits when they were due. The manner in which outlays would be reduced is not specified in law. For this study, CBO assumed that Old-Age and Survivors Insurance and Disability Insurance benefits paid to existing and new beneficiaries would be reduced by the percentage necessary to make the program's total annual outlays equal its total available revenues once the combined trust funds were exhausted.

payroll tax: A tax on people's earnings that is credited to the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund. Under current law, 12.4 percent of people's earnings up to a maximum amount each year—now $118,500—are subject to the payroll tax. Workers and their employers each pay half; self-employed people pay the entire amount.

present value: A single number that expresses a flow of past and future income (in taxes) or payments (in benefits) in terms of an equivalent lump sum received or paid at a specific time. The value depends on the rate of interest, known as the discount rate, used to translate past and future cash flows into current dollars at that time.

primary insurance amount (PIA): The amount to be paid each month to a disabled worker or to a worker who begins to receive Social Security retirement benefits at the full retirement age. Actual monthly benefits paid to retired workers and their dependents differ from the PIA depending on the number of months either before or after reaching the full retirement age that a person claims benefits.

primary insurance amount (PIA) factor: The percentage of the average indexed monthly earnings replaced in the PIA formula. Under current law, the PIA factors are 90 percent below the first bend point (at which the PIA factor changes), 32 percent between the first and second bend points, and 15 percent above the second bend point.

primary insurance amount (PIA) formula: A formula that is used to convert a worker's average indexed monthly earnings (AIME) into his or her PIA. The AIME is converted to the PIA by applying PIA factors (or replacement rates applied to portions of the AIME), which change at the bend points. For workers who turn 62 or become disabled in 2015, for all of their dependents, and for dependents of workers who die in 2015, the PIA formula is 90 percent of the first $826 of the AIME, plus 32 percent of the AIME between $826 and $4,980, plus 15 percent of the AIME above $4,980.

quarter of coverage: The basic unit for determining coverage under the Social Security program. To be eligible for retired-worker benefits, a person generally must have worked for a minimum of 10 years (40 quarters of coverage, or 40 credits) under the program. In 2015, the minimum amount for a credit is $1,220 in wages, so any worker who earns at least $4,880 will receive four credits for the year.

replacement rate: The ratio of a Social Security recipient's benefit payments to his or her past earnings.

scheduled benefits: Benefits as calculated under current law, regardless of the amounts available in the Social Security trust funds.

taxable maximum: The maximum amount of annual earnings to which the payroll tax is applied (now $118,500). The taxable maximum increases annually with average earnings; in years without a cost-of-living adjustment (as in 2010, 2011, and 2016), the taxable

maximum does not increase. The taxable maximum does not decrease when average wages decline.

taxable payroll: The total earnings (wages and self-employment income) for employment covered by Social Security that is below the applicable annual taxable maximum.

trust funds: The accounts to which Social Security taxes are credited and from which benefits are paid. Interest on the funds' balances also is credited to the trust funds, and administrative expenses are withdrawn from them. The two trust funds are the Old-Age and Survivors Insurance (OASI) Trust Fund and the Disability Insurance (DI) Trust Fund. Although they are legally separate, in this report, CBO generally follows the common analytical convention of considering them as combined and refers to them as the combined, or OASDI, trust funds.

trust fund balance: At any given time, the balance in a program's trust fund is an indicator of the historical relationship between receipts and expenditures. Trust funds have an important legal meaning in that their balances are a measure of the amounts that the government is permitted to spend for certain purposes under current law. In a given year, the sum of receipts credited to a trust fund, along with any interest credited on previous balances, minus spending for benefits and administrative costs constitutes its surplus or deficit.

trust fund exhaustion date: The year in which a trust fund's balance will reach zero.

trust fund ratio: The balance in the Social Security trust funds at the beginning of the year, divided by projected outlays in that year.

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About This Document

This report of the Congressional Budget Office was prepared at the request of the Chairman and the Ranking Member of the Senate Committee on Finance. It examines a variety of approaches to changing Social Security, updating earlier work, including *Social Security Policy Options* (2010) and selections in *Options for Reducing the Deficit: 2015 to 2024* (November 2014). In keeping with CBO's mandate to provide objective, impartial analysis, the current report makes no recommendations.

The report was written by Charles Pineles-Mark of CBO's Long-Term Analysis Unit, with guidance from Julie Topoleski and Linda Bilheimer. The long-term simulations were programmed by Geena Kim, Xiaotong Niu, Charles Pineles-Mark, and Michael Simpson. Stephanie Hugie Barello, Sheila Dacey, Ed Harris, Kevin Perese, Kurt Seibert, Michael Simpson, and Emily Stern provided comments. Justin Lee, Marina Kutyavina, Kyle Redfield, and Stephanie Hugie Barello provided fact-checking. The staff of the Joint Committee on Taxation provided information and comments on the draft. Jeffrey Brown of the University of Illinois; Melissa Favreault of the Urban Institute; Noah Meyerson, formerly of the Congressional Research Service (now a CBO staff member); and Matthew Rutledge of the Center for Retirement Research at Boston College provided comments. The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.

Jeffrey Kling, John Skeen, and Robert Sunshine reviewed the report. The manuscript was edited by Kate Kelly and prepared for publication by Maureen Costantino and Jeanine Rees. The supplemental data were prepared by Charles Pineles-Mark, with assistance from Jeanine Rees. An electronic version is available on CBO's website (www.cbo.gov/publication/51011).

Keith Hall
Director

December 2015