CONGRESSIONAL BUDGET OFFICE
U.S. Congress
Washington, DC 20515

Douglas Holtz-Eakin, Director

December 22, 2004

Honorable Larry E. Craig
Chairman
Special Committee on Aging
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

In response to your request, the Congressional Budget Office has prepared a long-term analysis of the Social Security plan developed by Peter Diamond and Peter Orszag. The CBO analysis considers the impact that the proposed plan would have on the Social Security program, the federal budget, the U.S. economy, and present and future beneficiaries.

If you would like further details about this analysis, we would be pleased to provide them. The CBO staff contact is Noah Meyerson.

Sincerely,

Douglas Holtz-Eakin, Director

Enclosure

cc: Honorable John B. Breaux
Ranking Member

Honorable Charles E. Grassley
Chairman
Committee on Finance

Honorable Max Baucus
Ranking Democratic Member

Long-Term Analysis of the Diamond-Orszag Social Security Plan

December 22, 2004

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In 2003, federal outlays for Social Security totaled $479 billion, making the program the government's biggest. The program has two components. The Old-Age and Survivors Insurance (OASI) program provides benefits to retired workers, members of their families, and their survivors; the Disability Insurance (DI) program pays benefits to disabled workers younger than the normal retirement age and their dependents. Outlays for Social Security, along with those for Medicare and other federal retirement-related programs, will grow substantially over the coming decades with the aging of the baby-boom generation.

The approaching fiscal strains from the rising ratio of retirees to taxpaying workers have spurred proposals to change Social Security.[1] This Congressional Budget Office (CBO) long-term analysis considers the effects of a proposal by Peter Diamond of the Massachusetts Institute of Technology and Peter Orszag of the Brookings Institution.[2] Supplemental data, including the underlying data for the figures in this analysis, are available on CBO's Web site (www.cbo.gov).[3]

Summary

The proposal would both increase taxes and reduce benefits relative to those scheduled under current law. Provisions that would increase scheduled taxes are:

- Increase the Social Security payroll tax rate. From 2023 through 2079, the rate would grow by 0.26 percent a year. In addition, in every year beginning in 2012, the rate would grow by an amount determined by future increases in life expectancy. On net, CBO projects that the rate would increase from 12.4 percent of taxable earnings today to 12.7 percent in 2025 and 13.9 percent in 2050. In 2075, the rate would be 15 percent, 22 percent higher than the current level.

1. For CBO long-term analyses of other proposals, see *Long-Term Analysis of H.R. 3821, the Bipartisan Retirement Security Act of 2004* (July 21, 2004) and *Long-Term Analysis of Plan 2 of the President's Commission to Strengthen Social Security* (July 21, 2004).

2. Peter Diamond and Peter Orszag, *Saving Social Security: A Balanced Approach* (Washington: Brookings Institution Press, 2004).

3. CBO presented and discussed long-term projections for Social Security under current law in *The Outlook for Social Security* (June 2004). As a result of ongoing refinements in CBO's analytical methods and updates to the underlying data and economic assumptions, current baseline projections differ slightly from those presented in that report. The baseline projections will be updated further in January 2005 in concert with CBO's *Budget and Economic Outlook.* Following that update, a full set of current-law projections will be made available on CBO's web site.

- Increase the amount of earnings subject to payroll tax. Today, about 83 percent of covered earnings fall below the taxable maximum—the level of earnings below which the payroll tax applies ($87,900 in 2004). The proposal would gradually increase the taxable maximum until 87 percent of earnings would be taxable; CBO projects that this would require a 28 percent increase in the taxable maximum.

- Institute a payroll tax on earnings above the taxable maximum. The rate would begin at 3 percent in 2005 and would remain at that level until 2022. It would increase gradually from 2023 to 2079, reaching 4 percent of earnings. Earnings above the taxable maximum would not be included when determining Social Security benefit, so this provision would not affect benefits.

Benefits would generally be reduced under the proposal for beneficiaries first eligible for benefits in 2012 and later. Part of the reduction would be determined by future increases in life expectancy, and the reductions would accelerate beginning in 2023. For a typical retired worker, CBO projects that scheduled benefits would be reduced relative to current law by 2 percent in 2025, 12 percent in 2050, and 23 percent in 2105. Beneficiaries with higher benefits under current law would be subject to larger reductions.

The reductions in the benefit structure would also apply to disabled beneficiaries, but over the next 75 years, those reductions would on average be approximately offset by an increase in the cost-of-living adjustment (COLA) applied to disability benefits. For the average disabled beneficiary, the combination of this "super-COLA" and the other provisions would effectively delay the distribution of some disability benefits and then repay them with interest later in the beneficiary's lifetime. Workers who receive disability benefits for many years would generally benefit, while lifetime benefits would fall for those who collected for only a few years.

Other provisions would increase benefits for workers with low lifetime earnings, increase the benefit paid to a surviving spouse relative to the benefit received by a couple, cover all state and local government workers, and fully index retirement benefits for inflation. (Under current law, benefits are not indexed for inflation or wage growth that occurs in the two years when a worker turns 61 and 62.) All aspects of the proposal are described in detail in the appendix "Detailed Description of the Diamond-Orszag Proposal by Individual Provision."

Today, Social Security revenues are 4.9 percent of gross domestic product (GDP). CBO projects that under current law, revenues will remain stable at about 5 percent of GDP. Under the Diamond-Orszag proposal, revenues would grow steadily, reaching 6.6 percent of GDP in 2080—34 percent higher than under current law. Thereafter, they would decline slightly, to 6.5 percent in 2105.

Over the next 35 years, total scheduled benefits under Diamond-Orszag would follow the same general path as under current law: a sharp increase with the retirement of the baby-boom, then a leveling off as that generation died. But beginning in about 2040, the paths would diverge: under current law, scheduled benefits grow as a share of GDP, but under Diamond-Orszag they would fall. By 2105, total outlays would be 5.9 percent of GDP under Diamond-Orszag—16 percent lower than scheduled under current law.

Workers with higher earnings would be disproportionately affected by the proposal; relative to their earnings, they would generally experience larger tax increases and larger benefit reductions than workers with average or below-average earnings. Beneficiaries who worked for many years at low wages would be sheltered from many of the benefit reductions, and some would be better off under the proposal.

The comparison of Diamond-Orszag benefits to scheduled current-law benefits presents a limited perspective. CBO projects that under current law the Social Security trust funds will be exhausted in 2052. Thereafter, benefits financed from Social Security revenues would be at least 21 percent lower than scheduled. CBO projects that under Diamond-Orszag, the trust fund balance would always be positive and scheduled benefits would be fully financed. Therefore, after 2052, financed benefits under Diamond-Orszag would be substantially higher than under current law. In 2105, they would be 26 percent higher.

The Diamond-Orszag proposal could affect the level of economic output through the changes in households' participation in the labor markets and their hours of work, their accumulation of private assets, and the growth of government debt. Calculations based on a life-cycle growth model suggest that, under the proposal, real (inflation-adjusted) gross national product (GNP) could be between 0.7 percent and 0.8 percent lower in 2025—and between 1.5 percent and 1.7 percent lower in 2080—than it would be under the trust-fund-financed benefits baseline scenario. Those macroeconomic effects stem largely from the fact that the proposal would raise payroll tax rates and would not cut Social Security benefits as much as in the trust-fund-financed baseline. Although the proposal would reduce GNP according to CBO's simulations, assessing its effect on the overall well-being of households is more complicated

because GNP does not count many things that people value. For example, under the Diamond-Orszag proposal, GNP declines in large part because households would choose more leisure, which people value even though it does not contribute to GNP.

Overview of CBO's Analysis and Methods

CBO's long-term analyses for Social Security rely on simulations of the experiences of a representative sample of the program's participants, both workers and beneficiaries. By simulating the lifetime patterns of work, earnings, and other characteristics of hundreds of thousands of such individuals, CBO estimates what will happen to Social Security's revenues and outlays under current law over the long term; it can then use those projections collectively as a baseline, or benchmark, for determining the effects of proposals to change the system.[4]

This analysis considers how the proposal affects the following outcomes:

- Social Security's annual revenues, outlays, and balances (revenues less outlays);
- Total finances of the federal government;
- Total benefits that all participants receive;
- Benefits levels for different groups of beneficiaries, including those of different ages and different earnings levels;
- The relationship between the benefits that participants receive and the taxes they pay; and
- Aggregate economic activity.

Measuring the Proposal's Effects on Social Security's and the Government's Finances

In this analysis, CBO presents projections of annual outlays (benefits plus administrative costs) and revenues (payroll taxes and income taxes on benefits, but not interest credited to the trust funds) for the Social Security program. Any revenues not needed to pay for benefits or administrative expenses are invested in government bonds. The interest earned on these bonds and credited to the trust funds

4. For further discussion, see CBO, *The Outlook for Social Security*.

represents a significant source of the program's funding. However, it does not indicate the availability of resources to the budget as a whole. Because the interest payments represents the government paying itself, they provide no net revenues to the government and have no effect on the total budget. The trust funds serve primarily as an accounting mechanism, indicating the difference between the present value of revenues and the present value of outlays since the program's inception.

Given the large size of the Social Security program and the long time horizon of this analysis, projections of Social Security outlays and revenues in dollars are so large that they would be difficult to interpret. Therefore, this analysis presents most projections relative to GDP, a comprehensive measure of the nation's economic resources. CBO typically presents various types of outlays and revenues relative to GDP in other projections, and the use of a common metric allows policymakers to more easily compare the costs of different programs.

Outlook Under Current Law

CBO projects that under current law, Social Security revenues will remain stable at about 5 percent of GDP. Most of these revenues come from payroll taxes, and earnings subject to payroll taxes are a generally constant portion of GDP. Outlays, on the other hand, will grow substantially as the baby boom retires over the next few decades, from 4.3 percent of GDP today to 6.1 percent by 2030, by CBO's estimate. In later years, outlays are projected to grow at a more moderate pace as life expectancy continues to increase. By 2105, CBO projects, scheduled outlays will equal 6.9 percent of GDP—a 59 percent larger share than in 2003. CBO's projections depend on assumptions about future demographic and economic trends; thus they are necessarily uncertain. Projections for the distant future can indicate only general trends, not specific outcomes.

Social Security's revenues and outlays contribute to the total budget surplus or deficit. At present, the Social Security surplus reduces the overall budget. CBO's projections indicate that under current law, the Social Security contribution will start to decline within the next several years, turn negative and subsequently either increase the size of the total deficit or reduce the size of the total surplus. That impact will grow over time as the gap between revenues and outlays widens.

CBO's projections also indicate that under current policies, the federal government as a whole will face substantial budgetary shortfalls in the years to come. The size of the Social Security program gives it a large role in the total federal budget, but it is only one source of expected fiscal strains over coming

decades.[5] Thus, although legislation that reduces or eliminates future shortfalls in Social Security will probably affect projected federal deficits, it is unlikely to eliminate them.

Measuring Effects Using Alternative Baselines

The projections above describe the outlays scheduled under current law. However, the trust fund balance represents the total amount that the government is legally authorized to spend on Social Security, so if the trust fund balance fell to zero, outlays would be legally limited to current revenues.

It is unclear how to describe future benefit levels in the unlikely case that policymakers allow the trust funds to become exhausted. CBO projects that under current law, the trust fund balance will fall to zero in 2052. On the one hand, the exhaustion of the trust funds would not affect a beneficiary's legal right to full benefits. On the other hand, the Social Security Administration would not have the legal authority to pay full benefits.

Consequently, this analysis presents future spending for benefits—for both the current-law benchmark and the proposal—under two scenarios.

- In the "**scheduled benefits**" scenario, outlays after trust fund exhaustion are assumed to include the full benefits owed, despite any shortfall in the system's annual revenues.

- Alternatively, in the "**trust-fund-financed benefits**" scenario, outlays after trust fund exhaustion are assumed to include only those benefits that could be financed by annual revenues. Thus, that scenario assumes that all benefits are reduced annually after trust fund exhaustion so that total outlays equal available revenues.

Using the trust-fund-financed benefits scenario in addition to the scheduled benefits scenario is necessary for a balanced analysis.[6] If legislation reduced outlays to such a degree that the Social Security trust

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5. See Congressional Budget Office, *The Long-Term Budget Outlook* (December 2003), for a more complete discussion.

6. Some proposals shift funds from other government accounts into the Social Security trust funds. However, CBO cannot evaluate the effect of such transfers on individuals when the source of the funds either is not specified or is not possible to analyze on an individual basis. Therefore, CBO sometimes uses a third benchmark, the "dedicated-tax-financed benefits" scenario, which measures individual outcomes only for those benefits funded by dedicated revenues. These revenues are equal to or less than trust-fund-financed benefits. The Diamond-Orszag proposal does not contain a provision for transferring funds from other government accounts to the Social Security trust funds. Therefore, this analysis considers only the scheduled benefits and trust-fund-financed benefits baselines.

funds were never exhausted, it would be unfair to compare those lower benefits with current-law scheduled benefits, because the former are fully financed while the latter are not. Thus, the trust-fund-financed benefits baseline provides a consistent comparison.

The two baselines differ under current law because outlays differ after trust fund exhaustion. But under proposals that raise dedicated revenues by enough to fully finance outlays, the balances of the trust funds would always be positive. In that case, scheduled outlays would equal trust-fund-financed outlays.

Single-Simulation and Range Estimates

This analysis contains both point estimates (which are labeled "single-simulation results") and range estimates. CBO generated the point estimates through a single simulation in which it set the demographic and economic assumptions necessary for long-run projections to their most likely values. CBO based its range estimates on hundreds of stochastic simulations. Those simulations are based on a probability distribution of possible future outcomes for the various demographic and economic assumptions used in the projections.[7] The distribution of each assumption is centered at its most likely value, but the variation around those values is based on historical experience.

In its results, CBO gives its estimate of the 80 percent range of uncertainty—that is, the range within which the actual value has an 80 percent chance of falling. In some cases, CBO presents the median—or middle—of the range of outcomes. The single-simulation and median values both indicate the "typical" results; however, the median of the multiple-simulation results may differ somewhat from the single-simulation result.

Measuring the Proposal's Effects on Individuals

The effect of changes to the Social Security program can be observed not only in the federal budget and Social Security finances, but also through their direct effects on individuals, both as taxpayers and as beneficiaries. CBO measured benefit levels for retired workers in three ways:[8]

- Benefits in the first year following retirement;

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7. See Congressional Budget Office, *Uncertainty in Social Security's Long-Term Finances: A Stochastic Analysis* (December 2001).

8. See Congressional Budget Office, *Measuring Changes to Social Security Benefits*, Long-Range Fiscal Policy Brief No. 11 (December 2003), for further discussion of these three measures.

- The percentage of preretirement earnings replaced by retirement benefits in the first year following retirement, known as the first-year replacement rate; and

- Retirement benefits over an individual's lifetime.

CBO presents benefit levels for retired workers in seven age groups (categorized by the decade of their birth) and in three lifetime earnings groups (the lowest, middle, and highest fifths, or quintiles, of the distribution of the household's lifetime earnings.) The lifetime household earnings distribution is a ranking of individuals by the total lifetime earnings in their households.[9]

CBO also measured the effect on individuals more comprehensively, using as its fourth measure the ratio of the present value of lifetime Social Security benefits to the present value of lifetime Social Security payroll taxes. Benefits included both DI payments and OASI payments. This analysis was done for everyone who survives to age 45, not just for people who receive retirement benefits during their lifetime. The taxes paid comprise both the employer's and employee's shares of payroll taxes; the benefits received comprise retirement and disability benefits received by workers as well as benefits received by dependents and survivors (excluding payments made to children of worker beneficiaries or deceased workers). In this calculation, income taxes paid on benefits are subtracted from gross benefits.

The ratio of lifetime benefits to lifetime taxes provides a notion of the relationship between the payroll taxes that Social Security participants pay and the benefits that they receive. For example, a ratio of 150 percent means that the present value of benefits is 50 percent greater than the present value of taxes. (Because Social Security is a pay-as-you-go social insurance system, this and other measures of the system's rate of return are not comparable with the returns that would be achieved through private investments.[10]) CBO provides ratios for individuals who live to at least age 45, broken down by 10-year birth cohorts and level of lifetime household earnings.

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9. The household earnings quintile into which an individual falls may differ from his or her individual earnings quintile. For example, a person who is out of the labor force most of her life while married to a high-earning spouse has low lifetime individual earnings but high lifetime household earnings.

10. See Congressional Budget Office, *How Pension Financing Affects Returns to Different Generations*, Long-Range Fiscal Policy Brief No. 12 (September 22, 2004).

Measuring the Proposal's Effects on the Macroeconomy

Like any other significant change to the Social Security program, Diamond-Orszag could affect the nation's overall level of economic output. Policies related to Social Security affect the economy primarily by changing the level and riskiness of people's expected lifetime income and by changing a workers's net earnings from an additional hour of work. Those changes can influence how much and how long people work and how much of their income they save and how much they spend on current consumption.

Analysis of the Diamond-Orszag Proposal

Social Security Revenues and Outlays Over Time

Scheduled Benefits Scenario. Under current law, CBO projects that over the near term, Social Security revenues (payroll taxes and income taxes on benefits) will exceed outlays (benefits and administrative costs) (see Figure 1A at the end of this report, top panel). Over the long term, however, projected outlays will be larger than revenues throughout the century; the gap will reach around 2 percent of GDP. In 2105, outlays will be almost 7 percent of GDP.

Under Diamond-Orszag, Social Security revenues would increase in 2005 by 6 percent, to 5.1 percent of GDP, when the tax on earnings above the taxable maximum is instituted. The rate would then increase steadily for the next seven decades, as three factors all increase: the payroll tax, the taxable maximum, and the tax on earnings above the taxable maximum. Around 2075, revenues would stabilize at 6.5 percent of GDP, more than 30 percent higher than under current law (see Figure 1A, bottom panel).

Over the next 40 years, scheduled Social Security outlays would be slightly higher under Diamond-Orszag than under current law, though the projected difference is quite small—no more than 2 percent in any year. That difference is due primarily to the enhanced benefits for low-earning workers and the introduction of the super-COLA for disabled beneficiaries. (While total 75-year DI outlays would change little, the super-COLA would begin earlier than the provisions that reduce benefits, so DI outlays would be higher than under current law in earlier years and lower in later years.) In 2046, outlays under Diamond-Orszag would fall below those scheduled under current law, and then gradually decline, falling to 6 percent of GDP in 2080—compared to 6.4 percent during the 2030s, when the number of baby boom beneficiaries will peak.

Under Diamond-Orszag, outlays would first exceed revenues in 2022. Annual deficits would peak at 0.6 percent of GDP in 2034 and then decline; annual surpluses would return in 2056 and stabilize at 0.6 percent of GDP beginning in 2085 (see Figure 1A).

Trust-Fund-Financed Benefits Scenario. In the trust-fund-financed benefits scenario, there can be no negative annual balances after trust-fund exhaustion because benefits, and thus outlays, are automatically reduced to a level consistent with revenues. Under current law, trust fund exhaustion is projected to occur in 2052, so starting in 2053, trust-fund-financed outlays are limited to annual revenues (see Figure 1B, top panel).[11]

Under Diamond-Orszag, CBO projects that proposed benefits would be fully funded by trust fund receipts, so projected outlays under the trust-fund-financed benefits scenario would equal those under the scheduled benefits scenario (see Figure 1B, bottom panel). Because the trust funds are never exhausted in the single-simulation analysis, there is no need to analyze the automatic benefit reductions. Still, projected annual outlays exceed projected annual revenues under Diamond-Orszag from 2022 through 2055.

Effects of Individual Provisions

Scheduled Benefits Scenario. Diamond-Orszag contains numerous provisions, each with differing effects on the Social Security balance (revenue less outlays in different years). (These provisions are described in detail in the appendix “Provisions of Diamond-Orszag.”) This measure of revenue does not include interest credited to the trust funds, which is an intragovernmental transaction, so the budget effects of the provisions do not include the interest effects. (See "Effects on Balance of Diamond-Orszag Provisions" in Table 1A.)

The proposal would increase payroll taxes in three ways:

- The payroll tax rate would increase from 12.4 percent under current law to an estimated 15.6 percent by 2105;

- The taxable maximum would increase; and

11. While the OASI and DI trust funds would actually become exhausted in different years, they are assumed to be combined for the purposes of this analysis.

- A new payroll tax would apply to earnings above the taxable maximum.

The tax on earnings above the taxable maximum would result in the greatest increase in revenues in earlier years—it would immediately increase revenues by about a quarter of a percent of GDP. The other two provisions would phase in more gradually. The extra revenue from raising the taxable maximum would grow to almost 0.2 percent of GDP in 2060, then drop to around 0.1 percent in 2105. The greatest revenue effect would come from the increase in the base payroll tax rate. By 2105, when the rate would stabilize, that increase would account for almost 1.1 percent of GDP—half of the projected current law Social Security deficit in that year. Compared to current law, overall Social Security revenue would be 20 percent higher in 2045 and 35 percent higher in 2105.

Diamond-Orszag would also reduce benefits through various changes to the benefit formula. All primary insurance amount (PIA) factors—the values in the formula that determines benefit levels based on past earnings—would be reduced. The size of the reduction would be based in part on actual improvements in life expectancy and would grow over time, to 12 percent in 2050 and 23 percent in 2105, CBO projects.[12] This provision would reduce scheduled outlays by 0.4 percent of GDP in 2105.

The top PIA factor, which applies only to higher-earning beneficiaries, would be reduced by an additional 33 percent by 2031, when it would reach 0.096, 36 percent lower than the current-law rate of 0.15.

Two provisions would increase benefits for some workers with below-average earnings and for some widows and widowers. The low-earner benefit would increase outlays by around 0.1 percent of GDP each year, while the widow benefit would have little effect on total outlays.

Covering state and local government workers would initially result in higher revenues, but would eventually result in higher outlays when those workers received benefits. The improvement in the annual balance due to this provision peaks at 0.1 percent of GDP in 2039, but then declines. The net effect is close to zero after 2075.

All provisions would apply to disabled beneficiaries, but the reductions in benefits would be offset by the addition of the super-COLA for disabled beneficiaries. Alone, the super-COLA provision would grow

12. These calculations do not include the portion of the reduction in the PIA factors that will be offset by increased inflation indexation.

steadily, reaching a quarter of one percent of GDP in 2080, but after accounting for the effects of the other provisions, total DI outlays over the first 75 years of the projection period would change little. In any single year, however, DI outlays would usually change. For example, from 2025 to 2035, they would be 9 percent higher than scheduled under current law; after 2100, they would be 11 percent lower.

A provision to insulate beneficiaries from unexpectedly high or low inflation during the years in which they turn 61 and 62 would have almost no effect on outlays in the single-simulation analysis, which is run with expected inflation levels. If inflation were unexpectedly high, this provision would result in higher outlays, and if inflation were unexpectedly low, the provision would result in lower outlays.

Trust-Fund-Financed Benefits Scenario. The amount by which total benefits would be automatically lowered below scheduled benefits if the trust funds are exhausted is considered an "automatic benefit reduction." For example, in 2065, the projected automatic benefit reduction under current law is 1.63 percent of GDP—the same size as the projected deficit in 2065 in the scheduled benefits scenario. (See "Social Security Finances under Current Law" in Table 1B.) In 2053, trust-fund-financed benefits will be 21 percent lower than scheduled benefits; by 2105, they will be 31 percent lower.

In the trust-fund-financed benefits scenario, the estimated effect of each provision of Diamond-Orszag is the same as under the scheduled benefits scenario. However, because current-law trust-fund-financed benefits include an automatic benefit reduction in 2053 and later, the provisions' effects should be interpreted slightly differently. The values show the effect on the sum of the annual balance plus the automatic benefit reduction. (See "Effects on Balance plus Automatic Benefit Reduction of Diamond-Orszag Provisions" in Table 1B.) After trust-fund exhaustion, a slight reduction in scheduled benefits would not reduce total outlays but rather would reduce the size of the automatic benefit reductions. For example, if under current law there were a shortfall—and therefore an automatic benefit reduction—of 1 percent of GDP, and if a particular provision reduced scheduled benefits by 0.4 percent of GDP, then the automatic benefit reduction would be reduced to 0.6 percent of GDP, even though total outlays remained unchanged.

Diamond-Orszag would increase revenues and reduce outlays by more than enough to eliminate the automatic benefit reductions. For example, in 2105 the revenue increases and outlay reductions would total 2.75 percent of GDP. This would both eliminate the 2.14 percent automatic benefit reduction and result in a surplus of 0.61 percent of GDP in that year.

Uncertainty

Scheduled Benefits Scenario. The uncertainty about Social Security that individuals and policymakers face is an important economic and policy consideration. The range estimates show the 80 percent range of uncertainty, falling between the 10th and 90th percentiles. By definition, there is a 10 percent chance that the value will fall below the 10th percentile, a 10 percent chance that it will fall above the 90th percentile, and an 80 percent chance that it will fall between the two. For example, while the single-simulation annual balance in 2045 under Diamond-Orszag is -0.31 percent of GDP, CBO projects that there is a 10 percent chance that it will be less than -1.67 percent of GDP and a 10 percent chance that it will be greater than 0.98 percent (see bottom of Table 1A). The median annual balance is -0.16 percent of GDP, rather than the single-simulation projection of -0.31 percent. By 2105, the uncertainty grows to an 80 percent range spanning -0.6 percent to 2.8 percent of GDP.

Trust-Fund-Financed Benefits Scenario. Under the trust-fund-financed scenario, after trust fund exhaustion, the annual balance under current law will be zero by definition. However, the trust-fund exhaustion date is uncertain; under current law, there is a 10 percent chance that the exhaustion date will be 2033 or earlier and a 10 percent chance that it will be after 2086. In addition, it is possible for the system to experience a positive annual balance even after trust-fund exhaustion. As a result, there is still some uncertainty about future annual balances, but it diminishes relative to the scheduled benefits scenario. In 2105, the 80 percent range of uncertainty is only -0.25 percent to 0.23 percent of GDP—about one-eighth the uncertainty that exists under the scheduled benefits scenario (see bottom of Table 1B).

Under Diamond-Orszag, the 80 percent ranges of uncertainty for the annual balance are quite similar for the scheduled and trust-fund-financed benefits scenarios, which is not surprising, given that the system is expected to be fully financed by dedicated revenues. There is about a 15 percent chance that the trust fund would be exhausted within 100 years, in which case trust-fund-financed benefits would be lower than scheduled. Therefore, the 10th percentile of the annual balance is slightly less negative under the trust-fund financed scenario, reflecting the lower outlays and lower deficits that would occur (compare bottom panels of Tables 1A and 1B).

Effects of Diamond-Orszag on the Total Federal Budget

At different points in the projection period, the total federal budget will be either in surplus or in deficit. A positive change in the total budget as a result of changes in Social Security reflects either an increase in the surplus or a decrease in projected deficits.

Scheduled Benefits Scenario. Under Diamond-Orszag, as tax rates gradually increase and the benefit formula level becomes less generous, revenues would increase and outlays would decrease. As a result, the total budget balance would be greater in every year than under current law—either the deficit would be decreased or the surplus would be increased—and the improvement would grow over time (see Figures 2A). The improvement in the total budget balance would be much larger than the improvement in the annual Social Security balance, especially in later years, because the total budget balance measure includes the effect of lower interest outlays. In 2030, the median total balance would be 1.0 percentage point of GDP higher than under current law. The improvement would grow to 17 percentage points of GDP by 2105. However, there is substantial uncertainty about the projections: the 10th and 90th percentile lines bracket a range of 8 percentage points to 28 percentage points in that year.

Trust-Fund-Financed Benefits Scenario. In the first few decades, the effect of the proposal on the federal budget would be the same under the trust-fund-financed benefits scenario as under the scheduled benefits scenario. But later, the effects of Diamond-Orszag on the federal budget would be smaller under this scenario because of differences in the baselines. Under the trust-fund-financed baseline, benefits would be cut upon trust-fund exhaustion. As a result, Diamond-Orszag's proposed benefit reductions would have comparatively little effect on projected total outlays, the assumption being that large reductions would have been made anyway upon trust-fund exhaustion.

Consequently, under trust-fund-financed benefits scenario, the median outcome is that Diamond-Orszag would result in smaller improvements in total budget balances than under the scheduled benefits scenario in later years. The improvement is still substantial, growing to 7 percent of GDP by 2105 (see Figure 2B). The uncertainty is similar to that under the scheduled benefits scenario.

Benefits from Social Security

Scheduled Benefits Scenario. Over the next 30 years, scheduled current-law Social Security benefits are projected to grow from slightly more than 4 percent of GDP to about 6 percent. The uncertainty of the projections also increases over time, with a projected range of 4 percent to 9 percent of GDP in 2105 (see Figure 3A). Much of the uncertainty about benefits reflects uncertainty about future wage levels (and thus benefit levels), the number of beneficiaries, and how long each of those beneficiaries will live.

For the next 40 years, total Social Security benefits under Diamond-Orszag would be slightly higher than under current law. But benefit outlays under the proposal would decline thereafter, while current law benefits continue to increase. By 2075, benefits under Diamond-Orszag would be 9 percent lower than

scheduled under current law, and by 2105, they would be 16 percent lower. (Compare the dark, solid line and the dashed line in Figure 3A.)

Uncertainty about benefits paid by the government is slightly lower under the proposal than under current law. In 2105, the projected 80 percent range of uncertainty would be 3 percent to 7 percent of GDP under Diamond-Orszag, compared with 4 percent to 9 percent under current law. Uncertainty about mortality is one of the leading causes of uncertainty about long-run Social Security benefit levels.[13] Under current law, unexpected changes in life expectancy would directly affect Social Security benefits, as beneficiaries would live and collect benefits for a longer or shorter period than expected. This would still occur under Diamond-Orszag, but the effect would be slightly muted. Under the proposal, changes in benefits would be indexed to life expectancy, so greater-than-anticipated life expectancy would result in greater-than-anticipated reductions in benefit levels.

Trust-Fund-Financed Benefits Scenario. Under current law, trust-fund-financed benefits fall substantially after exhaustion of the trust funds to exactly the level of revenues. Although the single-simulation trust-fund exhaustion date is 2052, the 80 percent range of uncertainty for the date of exhaustion spans 2033 to 2087. After exhaustion, benefits would be exactly equal to revenues. Long-term projections of Social Security revenues relative to GDP are more reliable than projections of outlays, so there is less uncertainty about outlays after trust fund exhaustion. By 2105, the 80 percent range of uncertainty spans 3 percent to 5 percent of GDP (see Figure 3B).

While the single-simulation value of Social Security benefits drops suddenly in 2053, the 10th and 90th percentiles do not exhibit the same sudden drop. That difference occurs because of the uncertainty about the year of trust fund exhaustion. In the stochastic simulations used to produce the range estimates, exhaustion occurs in different years in different runs, so trust-fund exhaustion has a gradual effect on the 80 percent range of uncertainty.

Under Diamond-Orszag, benefits would be approximately equal to those projected under current law in years before 2053 but would be higher in later years, when current-law benefits are projected to drop after trust-fund exhaustion. Under Diamond-Orszag, the 80 percent range of total trust-fund-financed benefits would span 3 percent to 7 percent of GDP in 2105.

13. See CBO, *Uncertainty in Social Security's Long-Term Finances*.

Benefit Levels for Different Age and Earnings Groups

The discussion so far has focused on the aggregate measures of benefits and revenues. However, current law treats different people differently, and any change to that law is likely to have implications for the distribution of benefits and taxes.

First-Year Annual Benefits. The initial level of benefits that a retired worker receives (in 2004 dollars) measures his or her purchasing power. Initial benefits rise with the age at which a worker claims benefits. To ensure that data are comparable, this analysis considers a standardized benefit amount: the benefit that workers would receive if everyone claimed benefits at age 65.

Scheduled benefit levels increase over time owing to growth in real (inflation-adjusted) average earnings, although that growth over the next 20 years will be offset in part by the scheduled increase in the normal retirement age (see Table 2, current law, column A). For the 1990s birth cohort—the first 10-year cohort to all reach age 65 after the year that the trust funds are projected to be exhausted—estimated trust-fund-financed benefits under current law are more than 20 percent lower than scheduled benefits (see Table 2, current law, column B). Those automatic benefit reductions, which are due to projected revenue shortfalls, will grow to 31 percent by 2105, CBO estimates. However, earnings growth will also continue, so benefits will resume growth in real terms for the 2000s birth cohort. Under both scenarios, Social Security will continue to award higher benefits to those with higher earnings, thus paying higher benefits to those who have paid more Social Security taxes.

Scheduled benefits under Diamond-Orszag would generally be lower than scheduled benefits under current law (compare current law, column A, with Diamond-Orszag, column A, in Table 2). Those reductions would be phased in over time, although benefits would still rise in real terms for every successive cohort. The benefit reductions are larger for those with higher household lifetime earnings. Compared to current law, scheduled first-year benefits would be 13 percent lower for the lowest quintile in the 2000s birth cohort, 17 percent lower for the middle quintile, and 19 percent lower for the highest quintile.

However, because proposed benefits are fully financed under Diamond-Orszag while current-law benefits are not, an alternative and perhaps more meaningful comparison is between the outcomes under the trust-fund-financed scenarios (compare current law, column B, and Diamond-Orszag, column B, in Table 2). For the lowest household earnings quintile, Diamond-Orszag would provide benefits equal to or greater than those financed under current law for all cohorts. For higher earners, trust-fund-financed

benefits would be lower for earlier cohorts but higher for later ones. First-year benefits for all earnings groups in the 2000s birth cohort would increase relative to current law: by 17 percent for the lowest earnings quintile, by 11 percent for the middle quintile, and by 8 percent for the highest quintile.

Under Diamond-Orszag, benefits are projected to be adequately funded with dedicated-tax revenues. The proposal does not provide for any intragovernmental transfers (transfers to Social Security from other federal government funds).

First-Year Replacement Rates. First-year replacement rates provide a different perspective on benefit levels by comparing first-year benefits with average career earnings (see Table 3). Replacement rates illustrate the adequacy goal of the Social Security system, replacing a higher share of earnings in retirement for those lower in the earnings distribution.

Scheduled replacement rates generally decline under current law as the normal retirement age increases for the 1940s and 1950s birth cohorts (see current law column A of Table 3). But the replacement rate for the lowest quintile is projected to increase for the 1970s and 1980s birth cohorts because earnings for those groups are projected to grow more slowly than average. As their earnings decline relative to the rest of the population, the progressive benefit formula replaces a greater fraction of career average earnings.

Relative to scheduled replacement rates, trust-fund-financed replacement rates are projected to fall by more than 20 percent for the 1990s birth cohort and by 25 percent for the 2000s birth cohort (see current law, column B, of Table 3).

Because replacement rates are computed based on first-year benefits, Diamond-Orszag would have the same proportional effect on replacement rates as on first-year benefits. As noted above, under Diamond-Orszag, benefits would be adequately funded with dedicated-tax revenues, and there is no provision for intragovernmental transfers.

Lifetime Retirement Benefits. Lifetime retirement benefits reflect the present value of all projected worker benefits that a beneficiary receives from the program during retirement, discounted to age 60 and presented in 2004 dollars (see Table 4). That measure is equivalent to the amount of money that, if invested in Treasury bonds, would pay retirement benefits over a person's lifetime. (The measure reflects actual projected lifetime benefits based on the age at which benefits are claimed and the age at death.)

Scheduled lifetime benefit levels increase over time as a result of growth in real average earnings and longer life expectancy (see current law, column A, in Table 4). As later cohorts live longer, they will collect benefits longer. This second effect also differs across the earnings distribution because higher earners live longer on average.

Under the trust-fund-financed benefits scenario, automatic across-the-board benefit reductions occur after trust fund exhaustion. Thus, trust-fund-financed lifetime benefits under current law drop significantly relative to scheduled benefits starting with the 1960s birth cohorts, many of whom who will still be alive and collecting benefits following trust fund exhaustion (see current law, column B, in Table 4). Trust-fund-financed lifetime benefits for the 2000s birth cohort are nearly 30 percent lower than scheduled. Despite these cuts relative to scheduled benefits, lifetime benefits generally continue to grow across the cohorts.

Under Diamond-Orszag, lifetime benefits would be lower than current-law scheduled benefits. Reductions are greatest for later cohorts and for higher-earning groups. (Compare current law, column A, with Diamond-Orszag, column A, in Table 4.)

Because proposed benefits under Diamond-Orszag would be fully financed while current-law benefits are not, the more balanced comparison is between the outcomes under the trust-fund-financed scenarios. Those benefits would be higher under Diamond-Orszag for almost every cohort in every earnings group. (Benefits would be 2 percent to 4 percent lower for the higher earners in the 1950s, 1960s, and 1970s birth cohorts.) The proposal would increase trust-fund-financed lifetime benefits by 15 percent to 20 percent for beneficiaries born after 1990. (Compare current law, column B, and Diamond-Orszag, column B, in Table 4.)

Under Diamond-Orszag, benefits would be adequately funded with dedicated-tax revenues, and there would be no intragovernmental transfers.

Comparing Benefits Received with Taxes Paid

A more comprehensive perspective on individual outcomes is given by the ratio of the present value of total Social Security benefits—DI payments as well as OASI payments—received by all individuals over a lifetime to the present value of total Social Security payroll taxes paid over a lifetime.

Scheduled Benefits Scenario. Consider the scheduled benefits baseline for current law (see Figure 4A). For all quintiles, the benefit-to-tax ratios for those born in the 1950s are lower than for those born in the 1940s owing to the scheduled increase in the normal retirement age, but they rise for succeeding cohorts because of increasing life expectancy, which would increase benefits collected more than taxes paid.

Under both current law and Diamond-Orszag, the benefit-to-tax ratios are greatest for the lowest quintile. While these lower-earning workers have shorter life expectancies and thus collect retiree benefits for fewer years, those factors are more than offset by the progressive benefit formula and those earners' higher probability of disability. For similar reasons, the ratios are lowest for the higher earners.

The effects of Diamond-Orszag on early cohorts varies by earnings level and birth cohort. In general, the proposal would result in slightly higher ratios for lower earners and lower ratios for middle and higher earners. The highest earners would be most affected, primarily because the proposed tax on earnings above the taxable maximum in Diamond-Orszag would fall only on the higher earners.

Trust-Fund-Financed Benefits Scenario. Making a similar comparison under the trust-fund-financed scenario gives a different perspective (see Figure 4B). The projected ratios under current law are lower than under the scheduled benefits scenario, because the source of revenues used to pay scheduled benefits is not specified and thus cannot be included. The ratios are less certain under the trust-fund-financed scenario because of doubts about the date of trust-fund exhaustion and the magnitude of the automatic benefit reductions. Under Diamond-Orszag, proposed dedicated revenues are very likely to be sufficient to pay proposed benefits, so moving to the trust-fund-financed benefits scenario has little effect on the benefit-to-tax ratios presented.

Under current law, the ratio falls for later cohorts as benefits are reduced sharply after trust-fund exhaustion. (Figure 4B shows only a gradual decline because it considers lifetime benefits and because it groups beneficiaries into 10-year birth cohorts.) A similar pattern would occur under Diamond-Orszag due to the increases in tax rates and reductions in benefits. The benefit-tax ratio would be notably higher than under current law for the lower-earning quintile, approximately the same for the middle quintile, and somewhat lower for the highest-earnings quintile. This reflects the increased progressivity of both the tax and benefit structure under Diamond-Orszag.

Effects on the Macroeconomy

The Diamond-Orszag proposal could affect the level of economic output through the changes in households' participation in the labor markets and their hours of work, their accumulation of private assets, and the growth of government debt. Calculations based on a life-cycle growth model suggest that, under the proposal, real (inflation-adjusted) GNP could be between 0.7 percent and 0.8 percent lower in 2025—and between 1.5 percent and 1.7 percent lower in 2080—than it would be under the "trust-fund-financed benefits" baseline scenario.[14] That range of results reflects different assumptions about the degree to which the economy is open to free international capital flows.[15]

The model underlying CBO's analysis distinguishes between people of different ages, earning abilities, and earning histories, and it assumes that people are forward-looking and adjust their behavior in anticipation of future changes in tax rates and benefits.[16] Because the Social Security system is not sustainable under current law, the simulations of Diamond-Orszag were compared to the "trust-fund-financed benefits" baseline scenario. Under that scenario, benefits are cut once the trust funds have been exhausted. The analysis assumes that in the baseline economy, people fully expect the policies in the "trust-fund-financed benefits" scenario to occur—that is, people expect substantial benefit cuts under current law once the trust funds are exhausted and they behave accordingly.

The macroeconomic effects of the proposal stem largely from the fact that it would raise payroll tax rates and would not cut Social Security benefits as much as in the trust-fund-financed baseline. The increase in the payroll tax rate would raise the price of consumption goods relative to the price of leisure, which would tend to reduce the participation of workers in the labor market and cause them to reduce their hours of work.[17] Moreover, because future benefits would not be cut as much, people would not need to work and save as much for retirement. Together, CBO's simulations showed that the proposal would reduce labor supply by 0.7 percent to 0.8 percent in 2025 and by 1.8 percent to 1.9 percent in 2080.

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14. GNP is the sum of gross domestic product and the net income of U.S. residents from abroad. CBO uses GNP rather than GDP in this section because it reflects the impact of international capital flows on U.S. incomes.

15. Because of the complexity of calculating macroeconomic effects, some of the provisions in the Diamond-Orszag reform proposal were simplified in the analysis. However, those simplifications would be unlikely to significantly alter CBO's general conclusions about the plan's likely effects.

16. For a more detailed description of the model, see Shinichi Nishiyama, *Analyzing an Aging Population—A Dynamic General Equilibrium Approach*, Technical Paper 2004-3 (February 2004), available at www.cbo.gov/Tech.cfm. Some of the assumptions in the current analysis are changed from those in that paper.

17. The Social Security payroll tax is in part a labor income tax and in part a pension contribution. So, the effect of the payroll tax increase on labor supply would be smaller than that of a pure labor income tax increase.

Any proposal's effect on the capital stock would depend on how it affected both government debt and private wealth. As discussed above, this proposal would reduce government debt over the next century. However, CBO's economic simulations suggest that the proposal would also reduce private wealth compared to the trust-fund financed baseline. That reduction stems from the fact that higher payroll tax rates would reduce the disposable income of workers and the relatively larger expected benefits would make life-cycle savings less important. In total, CBO's simulations suggest that under the Diamond-Orszag proposal, the capital stock would be 0.8 percent lower in 2025 and between 0.8 percent and 1.4 percent lower in 2080.

Although the proposal would reduce GNP according to CBO's simulations, assessing the proposal's impact on the overall well-being of households is more complicated because GNP does not count many things that people value. For example, under the Diamond-Orszag proposal, GNP would decline in large part because households would choose more leisure, which people value even though it does not contribute to GNP.

Appendix A:
Detailed Description of the Diamond-Orszag Proposal by Individual Provision

Revenue Increases

Provision 1: Beginning in 2012, increase payroll tax rate as life expectancy increases; in addition, from 2023 through 2079, increase the rate by 0.26 percent

1a) Beginning in 2012, increase the current payroll tax rate of 12.4 percent of taxable earnings in proportion to realized increases in life expectancy. Workers who live longer receive retirement benefits for more years, and therefore receive higher lifetime benefits. As average life expectancy grows, average lifetime benefits increase. This provision is designed to offset half of the increased cost of benefits that is due to increased life expectancy. (A similar provision would reduce benefits; see provision 4a.)

Each year the Social Security Administration would calculate the expected present value of a 59-year old individual's lifetime benefits given the period life table for the year *four* years previous.[18] The same calculation would then be made using the period life expectancies for the year *three* years previous. The discount rates used to calculate the present values are equal to the projected interest rate on Social Security bonds, and the worker is assumed to start receiving benefits at the normal retirement age.

Tax rates for the calendar year three years later would then be increased by half of 85 percent of the ratio of the two present values. The 85 percent factor is specified because about 85 percent of total benefit outlays over the next 75 years will go to people who are not yet receiving benefits and will be affected by the tax increase. The factor is reduced by half because half of the extra cost is offset by reductions in benefits.

Mathematically, in year Y (2009, to begin with), the Social Security Administration would compute two factors:

18. The "period" life table presents the mortality rates for people of each age in a given calendar year. For example, the period life table for 2004 includes the probability that someone who is 59 in 2004 will die that year, that someone who is 60 in 2004 will die that year, etc. These probabilities are likely to be higher that those that will be experienced by an individual. For example, someone who is 59 in 2004 will be 60 in 2005, and the probability that a 60-year-old will die will probably be lower in 2005 than in 2004. However, using past period life tables ensures that policy changes are not affected by projections. Computations are made with data from several years earlier to avoid the use of preliminary or estimated data.

a = the present value of a 59-year-old retiring at the normal retirement age, using period mortality rates from year Y-4, and

b = the present value of the same 59-year-old retiring at the normal retirement age, using period mortality rates from year Y-3.

The tax rate in year Y+3 is set equal to:

the tax rate in year Y+2 x (1+0.5*0.85*(1-**a**/**b**))

In the single-simulation analysis, the average rate of increase would be 0.08 percent per year.

1b) Increase the payroll tax from 2023 through 2079. The rate would be increased by 0.26 percent each year. This factor would interact multiplicatively with the increase described in provision 1a. The tax rate in 2023 and later would equal

(the previous year's tax rate) x (factor described in provision 1a) x 1.0026.

Together, provisions 1a and 1b would increase the payroll tax rate from the current 12.4 percent of taxable wages to the following rates:

2010	12.40 %	2060	14.34 %
2020	12.51 %	2070	14.83 %
2030	12.90 %	2080	15.29 %
2040	13.38 %	2090	15.39 %
2050	13.85 %	2100	15.50 %

Provision 2: Increase the taxable maximum

Since 1982, the taxable maximum—the level above which earnings are not subject to the Social Security payroll tax—has been indexed to overall wage growth. However, due to increasing earnings inequality, the portion of covered wages that are subject to tax has declined since then, from about 89 percent to about 83 percent. This provision would increase the taxable wage base each year by an extra 0.5 percent, in addition to the growth due to wage indexing, until 87 percent of covered wages are taxable. Because the level of taxable earnings affects benefit levels, the increase would also result in benefit increases for affected workers, but the added cost would only partially offset the extra revenues. CBO projects that this provision would result in taxable wages reaching 87 percent of covered wages in 2057. Thereafter, the

taxable maximum would generally continue to grow with average wages. CBO projects that this would result in the taxable maximum ultimately being about 28 percent higher than under current law.

Provision 3: Institute a payroll tax on earnings above the taxable maximum

Under current law, earnings above the taxable maximum are not subject to Social Security tax. This provision would tax those earnings, although at a lower rate than earnings below the maximum. This provision would not affect benefits, which would continue to be based on earnings below the maximum.

Beginning in 2005, earnings above the taxable maximum would be subject to a 3 percent tax. (Employees and employers would each pay a tax of 1.5 percent of earnings; the self-employed would pay 3 percent.)

Beginning in 2023, the tax rate would increase by 0.52 percent each year until 2079. (In percentage point terms, the annual increase would grow from 0.016 percentage points in 2023 to 0.021 percentage points in 2079.) The following rates would apply to earnings above the taxable maximum:

2010	3.00 %	2060	3.65 %
2020	3.00 %	2070	3.85 %
2030	3.13 %	2080	4.03 %
2040	3.29 %	2090	4.03 %
2050	3.47 %	2100	4.03 %

Benefit Reductions

Provision 4: Reduce the factors (of 90 percent, 32 percent, and 15 percent) that are used to compute the PIA. All PIA factors would be reduced beginning in 2012 to adjust for increases in life expectancy, and accelerated reductions would begin in 2023. The 15 percent bracket would be reduced even further.

4a) Workers who live longer receive retirement benefits for more years, and therefore receive higher lifetime benefits. As average life expectancy grows, average lifetime benefits increase. This provision is designed to offset half of the increased cost of benefits that is due to increased life expectancy. (A similar provision would increase the payroll tax rate; see provision 1a.)

The reductions would begin for beneficiaries born in 1950. In 2009, the Social Security Administration would calculate the expected present value of a 59-year old individual's lifetime benefits given the period

life table for the year *four* years previous. The same calculation would then be made using the period life expectancies for the year *three* years previous. The discount rates used to calculate the present values are equal to the projected interest rate on Social Security bonds, and the worker is assumed to start receiving benefits at the normal retirement age.

The PIA factors for these workers would be set equal to the rates for the previous year times (1+0.5*(1-**a**/**b**)). (See provision 1a for definitions of **a** and **b**.) This would apply for most workers first eligible in 2012 or later (for retired beneficiaries born in 1950 or later.) However, beneficiaries first eligible for benefits in 2017 to 2022 (retiree beneficiaries born in 1955 to 1960) effectively face benefit reductions due to the currently scheduled increase in the normal retirement age. These beneficiaries would not be subject to additional benefit reductions. The PIA factors for those first eligible for benefits in 2017 to 2022 would be equal to the factors for those first eligible in 2016.[19]

4b) Beginning for beneficiaries first eligible in 2023 (retirees born in 1961), reduce the PIA factors by 0.31 percent. (The PIA factors would set equal to 0.9969 times the factors from the previous year, in addition to the reduction from provision 4a.) This provision would be in effect through 2079.

4c) Beginning in 2012, reduce the 15 percent bracket in 0.25 percentage point increments. The reductions would continue through 2031, when the bracket would be 10 percent in the absence of provisions 4a and 4b.

Under provision 4, the following brackets would apply:

	Bracket			Percentage of current-law value		
	1st	2nd	3rd	1st	2nd	3rd
2010	0.900	0.320	0.150	100%	100%	100%
2020	0.895	0.318	0.124	99%	99%	83%
2030	0.864	0.307	0.096	96%	96%	64%
2040	0.828	0.294	0.092	92%	92%	61%
2050	0.794	0.283	0.088	88%	88%	59%

19. Technically, there would be no reduction in the PIA factors only if the effective benefit reduction from the increase in the normal retirement age were larger than the benefit reduction from this provision. In some stochastic simulations, there may be some years in which there is a sharp increase in life expectancy. In those cases, this provision would have a small effect on the PIA factors for beneficiaries born in 1955 to 1960.

2060	0.763	0.271	0.085	85%	85%	57%
2070	0.733	0.261	0.081	81%	81%	54%
2080	0.706	0.251	0.079	78%	78%	52%
2090	0.701	0.249	0.078	78%	78%	52%
2100	0.695	0.247	0.077	77%	77%	52%

Note: The official PIA factors would be somewhat lower to offset the additional indexation to inflation (see provision 9).

Benefit Increases

Provision 5: Increase the survivor's benefit to 75 percent of couple's benefit

This provision would be implemented in two ways. Benefits would simply be increased for survivors with lower benefits. For couples with higher benefits, survivors benefits would be increased, but the benefit received when both members of the couple are alive would be decreased proportionately.

5a) This provision would raise the survivor benefit to 75 percent of the couple benefit for widows and widowers, if the resulting survivor benefit is higher than the current-law benefit. The benefit under this provision would be limited to the amount that the survivor would have received if his or her benefit was below average (specifically, if his PIA was less than the mean PIA of all retired workers from the previous year). This provision was also included in Plan 2 of the President's Commission to Strengthen Social Security.[20]

5b) In cases where the survivor benefit would be above the average benefit (specifically, the amount that the survivor would have received if the PIA of the higher earning spouse was the mean PIA of all retired workers from the previous year), the couple benefit would be reduced and the survivor benefit would be increased to 75 percent of the lowered couple benefit. The benefit changes would be made so that the present value of the benefit reduction for couples would be equal to the present value of the benefit increase for survivors over the lifetimes of both members of the couple. As a result, the expected present value of benefits paid over the lifetimes of the beneficiaries would be the same as under current law.

This would be implemented by computing, upon claim of the second member of the couple, the expected present lifetime value of the couple's benefits and the expected present value of survivor's benefits.

20. See Congressional Budget Office, *Long-Term Analysis of H.R. 3821, the Bipartisan Retirement Security Act of 2004* (July 21, 2004).

While *expected* lifetime benefits would be unchanged, the *realized* total lifetime benefits would generally be slightly different than under current law, depending on how long each spouse actually lived. For example, if both spouses died at the same time, their lifetime benefits would be higher under current law; if a wife lived for many years after her husband's death, the couple's lifetime benefits would be higher under Diamond-Orszag.

Provision 6: Increase benefits for workers with low lifetime earnings

This provision would increase benefits for workers who have both low lifetime average earnings and at least 20 years of covered earnings. For example, workers with a certain level of average lifetime earnings ($10,300 in 2003) and 35 years of covered earnings would receive a benefit equal to the poverty threshold.

Qualifying workers would have their PIA multiplied by the following factor:

1 + (11.9% x AIME factor x coverage factor)

The two factors each range from 0 to 1, so this provision increases benefit levels by up to 11.9 percent. However, for most beneficiaries, particularly those who retire in later years, this provision would only partially offset the benefit reductions in other provisions.

The average indexed monthly earnings (AIME) factor would give a larger increase to workers with lower average wages.

- It is set equal to 1 for workers with an AIME equal to or less than the AIME of a worker who earned the minimum wage for 30 years.

- It is set to zero for workers with an AIME greater than the AIME of a "scaled medium worker" (a worker who worked for 35 years, always earning an amount equal to the Average Wage Index).

- For workers with earnings between these levels the factor is set proportionately, for example, 0.5 for those at the average of those two levels. The formula is:

$$\text{AIME factor} = (\text{AIME}_{\text{medium worker}} - \text{AIME})/(\text{AIME}_{\text{medium worker}} - \text{AIME}_{\text{minimum wage worker}})$$

The coverage factor would give a larger increase to workers with more years of covered earnings. (Years of covered earnings are defined through earned quarters of coverage.)

- For most retired workers, it is set equal to 1 if the worker has at least 35 years in covered employment. More specifically, it is set equal to 1 for workers with more than 3.5 quarters of coverage per "elapsed year," where elapsed years are the number of years beginning when the worker turns 22 and ending with the year prior to entitlement, excluding years of disabled worker entitlement. Therefore, workers who were at some point entitled to disability benefits might have a factor of 1 with fewer than 35 years in covered employment.

- For most retired workers, it is set equal to 0 if the worker had 20 or fewer years in covered employment. More specifically, it is set equal to 0 for workers with 2 or fewer quarters of coverage per "elapsed year."

- For workers who worked between 20 and 35 years, the factor is set proportionately, for example, 0.6 for those with 29 years in covered employment. The formula is:

  Coverage factor = 1 - {[(3.5 x elapsed years) - quarters of coverage]
  /(1.5 x elapsed years)}

State and Local Workers

Provision 7: Cover all new state and local government workers

Currently, coverage of state and local workers varies, depending on each state's agreement with the federal government. Under this provision, universal coverage would be phased in, beginning with all employees hired in 2008.

Disability Benefits

Provision 8: Offset other reductions with "super-COLA"

The provisions described above apply to both disability and retirement benefits. In general, they result in significantly reduced initial disability benefits. This provision replaces the current-law annual cost-of-living increase (COLA) with a increased "super-COLA" for disabled beneficiaries so that total disability outlays would be unchanged.

Under current law, the COLA is equal to the inflation rate, and the COLA for retirees would continue to be equal to the inflation rate. However, under Diamond-Orszag, in the analysis CBO set the COLA for disabled workers to 1.3 percentage points higher than the inflation rate. (Dependents of disabled workers and surviving young spouses would also receive the super-COLA.) CBO set that differential so that the 75-year summarized DI cost rate (equal to the present value of total DI outlays over the next 75 years

divided by the present value of Social Security taxable payroll over the next 75 years) would be equal to the 75-year DI cost rate under current law, as described in the proposal.

Workers who became disabled early in life would gain most from the super-COLA; the increase in benefits would more than make up for the provisions that would decrease benefits. While their benefits would initially be lower than under current law, their annual benefits would grow in real terms over time. In later years, their annual benefits would be higher than under current law, and their lifetime benefits would also be somewhat higher.

The effect of the super-COLA would be smaller for workers who became disabled later in life, and they—like workers who first claimed benefits at retirement—would receive lower lifetime benefits under Diamond-Orszag than scheduled under current law.

Provision 9: Index retirement benefits to inflation from ages 60 to 62

Currently, benefits are indexed to average nominal wage growth until beneficiaries turn 60, and benefits are indexed for inflation after beneficiaries turn 62. This provision would extend inflation indexing back to age 60, reducing the effect of unexpectedly high inflation on beneficiaries. At the same time, benefits would be reduced by the expected inflation growth, so there is no change in expected benefits. The provision would transfer inflation risk from beneficiaries to the government, so that if inflation were unexpectedly high, outlays would be higher than under current law, and vice versa.

Appendix B:
How Social Security Benefits Are Calculated

All Social Security benefits are based on a measure known as the primary insurance amount (PIA). In turn, the PIA depends on a worker's career earnings in work subject to the Social Security payroll tax—which are figured as his or her average indexed monthly earnings (AIME). For people who reach age 62 after 1990, the AIME is calculated using the highest 35 years of earnings on which a person paid Social Security taxes (up to the taxable maximum, which is $87,900 in 2004). Earnings before age 60 are indexed to compensate for both inflation and real (after-inflation) growth in wages; earnings at age 60 and later enter the computations at their actual levels. Dividing a person's total earnings by 420 (35 years times 12 months) yields the AIME.

Primary Insurance Amount

The PIA is the monthly amount payable to a worker who begins receiving Social Security retirement benefits at the age at which he or she is eligible for full benefits or the amount payable to a disabled worker who has never received a retirement benefit. For workers who turn 62 or become disabled this year and their dependents, and for dependents of workers who die this year, the formula is as follows:

PIA = (90 percent of the first $612 of the AIME) + (32 percent of the AIME between $612 and $3,689) + (15 percent of the AIME over $3,689).

The PIA formula is designed to ensure that initial Social Security benefits replace a larger proportion of preretirement earnings for people with low average earnings than for those with higher earnings. The thresholds at which the percentage of the AIME changes ($612 and $3,689 this year) are known as "bend points." They change each year as the average annual earnings for the labor force as a whole change. Consequently, as wages rise over time, initial benefits increase at a similar pace.

Workers who are 62 now will be eligible for full benefits at 65 years and 10 months of age—the normal retirement age (NRA) for their age group. Workers who had average earnings throughout their career and who wait until they reach the normal retirement age to claim benefits will receive a monthly benefit of $1,321. That payment will replace about 41 percent of their earnings in the year before they claimed benefits. If, instead, they claimed benefits this year, soon after their 62nd birthday, they would be eligible for a permanently reduced monthly benefit of $942, which would replace about 34 percent of their pretax earnings last year.

At the end of each year, the Social Security Administration adjusts an individual's PIA by the amount of any increase in the consumer price index for urban wage earners and clerical workers (CPI-W). In December 2004, that so-called cost-of-living adjustment (COLA) was 2.7 percent— the same as the rise in the CPI-W that occurred between the third quarter of 2003 and the third quarter of 2004.

Because of Social Security's indexing rules, the payments received by newly eligible beneficiaries reflect both increases in prices and real growth in earnings throughout the economy during the years that those beneficiaries worked. Later increases in their payments—through annual COLAs—reflect only increases in prices after the beneficiaries became eligible for benefits. Thus, as long as real wages continue to rise, new beneficiaries will generally receive higher real benefits than older beneficiaries will.

Factors That Affect Monthly Benefits

All Social Security benefits are based on the PIA. A retired or disabled worker may receive 100 percent of the PIA; a spouse or child of a retired or disabled worker may receive 50 percent of the worker's PIA. For elderly surviving spouses and younger widows and widowers who are caring for the deceased worker's children, the rules differ. The former may receive 100 percent of the worker's PIA, whereas the latter may be eligible for 75 percent. Eligible surviving children may also receive 75 percent.

For a variety of reasons, outlined below, the actual percentages that any beneficiaries receive often differ from those percentages.

Early and Delayed Retirement. Under current law, the NRA depends on the worker's year of birth. For people born before 1938, the NRA is age 65. For slightly younger workers, it increases by two months per birth year, reaching 66 for people born in 1943. The NRA remains at 66 for workers born between 1944 and 1954 and then begins to increase again in two-month increments, reaching 67 for workers born in 1960 or later.

Workers can begin to receive monthly retirement benefits as early as age 62, but those payments will be permanently reduced. More than two-thirds of the workers who began receiving retirement benefits from Social Security in the past decade started collecting benefits before they reached the NRA. The majority began collecting them at age 62.

People who start collecting monthly benefits at age 62 this year will incur a permanent cut in those benefits of 24.2 percent. As the normal retirement age rises for future groups of workers, that maximum

permanent reduction will also increase—when the NRA is age 67, the maximum cut will be 30 percent. Similarly, workers who delay collecting benefits beyond their NRA will receive a delayed-retirement credit to compensate them for the shorter time during which they will receive benefits.[21]

The size of the reduction for workers who claim benefits early is intended to be "actuarially fair." That is, the total value of the smaller monthly benefit that an average worker can expect to receive between age 62 and death is similar to the total value of the full monthly benefit that the worker could have expected to receive over that time if he or she had waited for full benefits.

Earnings Test. The Social Security program also withholds benefits if recipients who have not attained the NRA earn more than a certain amount. This year, that earnings threshold is $11,640; for every $2 above that threshold that such recipients earn, the program reduces current benefits by $1. Known as the retirement earnings test, that rule applies to earnings but not to other income, such as dividends, pensions, or interest. The earnings threshold rises automatically each year to match the increase in a national index of average wages. Workers whose initial benefits are reduced because of the retirement earnings test will receive higher monthly benefits later. To the extent that the reduction factors are actuarially fair, lifetime Social Security benefits are not affected.

Maximum Family Benefits. The total amount of benefits that a family can receive on the basis of a worker's earnings record is limited by law. Total family benefits are generally capped at between 150 percent and 188 percent of the worker's PIA. (Family benefits in cases of disability are subject to additional limitations.) The family maximum typically comes into play when three or more members of a family are entitled to benefits.

In general, ex-husbands and ex-wives, if their marriage lasted at least 10 years, are entitled to the same benefits (based on their former spouse's earnings) that they would have received if they had remained married. Benefits for former spouses do not count against the family maximum.

Dual Entitlement. Some of those who are eligible for benefits as spouses or widow(er)s work long enough to earn retired- or disabled-worker benefits on their own. However, Social Security does not pay the full amount of both benefits. Instead, it pays the larger of the two amounts for which the recipients

21. Starting with beneficiaries born in 1943 (for whom the NRA is 66), each year beyond the NRA, up to age 70, that a worker delays claiming benefits will add 8 percent to his or her benefits. The delayed-retirement credit for workers who reach the NRA this year is 6.5 percent.

are eligible. Those beneficiaries technically receive their own benefit plus a portion of the other benefit and are labeled “dually entitled.”

As a rule of thumb, the lower earner of a couple does not receive any spousal benefits if he or she earned at least one-third as much as the spouse earned. But when the spouse dies, the lower earner generally receives additional benefits based on the deceased spouse’s earnings record.

Definitions of Key Terms

Average indexed monthly earnings (AIME)—for retired workers who attain age 62 after 1990, the AIME is calculated on the basis of the highest 35 years of earnings on which the individual paid Social Security taxes (up to the taxable maximum, which is $87,900 in 2004). Earnings before age 60 are indexed to compensate both for inflation and for real (inflation-adjusted) growth in wages; earnings after age 59 enter the computations at their actual levels. Dividing the total earnings by 420 (35 years times 12 months) yields the AIME.

Baby-boom generation—people born from 1946 to 1964.

Balance—see “annual balance” and “trust fund balance.”

Baseline—projections made assuming no changes to current law; comparison with the baseline determines the effects of proposals to change the system.

Cohort—individuals born in the same time period, such as a year or decade.

Cost-of-living adjustment (COLA)—annual increase in benefits reflecting the increase in the cost of living; under current law, equal to the percentage increase in the CPI-W (the consumer price index for urban wage earners and clerical workers).

Dedicated-tax-financed benefits—benefits that can be paid by taxes that are specifically dedicated to Social Security; equal to "trust-fund-financed benefits," less that portion of benefits that are financed by transfers to Social Security from other federal government funds.

Elapsed years—the number of years between an individual's age of first eligibility for DI or OASI benefits and age 22.

First-year replacement rate—the first-year monthly benefit as a percentage of average career monthly earnings.

Gross domestic product (GDP)—the total market value of goods and services produced domestically during a given period.

Median—the middle of the distribution of outcomes; there is a 50 percent chance that the actual outcome will be higher, and a 50 percent chance it will be lower.

Normal retirement age—the age at which a person becomes entitled to unreduced retirement benefits—that is, benefits equal to the PIA.

Percentile—a point in the distribution of outcomes; for example, there is a 10 percent chance that the actual outcome will be lower than the 10th percentile and a 10 percent chance that it will be higher than the 90th percentile. Thus, there is an 80 percent chance that the actual outcome will be between the 10th and 90th percentiles.

PIA factor—the percentages of the AIME replaced in the PIA formula after each bend point. The current bend rates are 90 percent, 32 percent, and 15 percent.

Present value—a single amount equal to the amount needed to finance a stream of revenue or outlays, under a given interest rate.

Primary insurance amount (PIA)—the monthly amount payable to a worker who begins receiving Social Security retirement benefits at the age at which he or she is eligible for full benefits, or the amount payable to a disabled worker who has never received a retirement benefit reduced for age. For workers who turn 62, become disabled, or die in 2004, the formula is:

PIA = (90 percent of the first $612 of the AIME) +
(32 percent of the AIME between $612 and $3,689) + (15 percent of the AIME over $3,689)

Quarters of coverage—basic unit of measurement for determining insured status. In 2004, a worker receives one quarter of coverage (up to a total of four) for each $900 of annual covered earnings. The amount of earnings required for a quarter of coverage is subject to annual automatic increases in proportion to increases in average wages.

Scheduled benefits—benefits as specified under law; contrast with "trust-fund-financed benefits" and "dedicated-tax-financed benefits."

Stochastic—method of simulation used for projecting a probability distribution of potential outcomes that is based on fluctuations in historical data.

Taxable maximum—maximum level of covered earnings upon which the Social Security payroll tax is levied each year.

Taxable payroll—the total amount of earnings (wages and self-employment income) in employment covered by Social Security that is under the applicable annual maximum taxable limit.

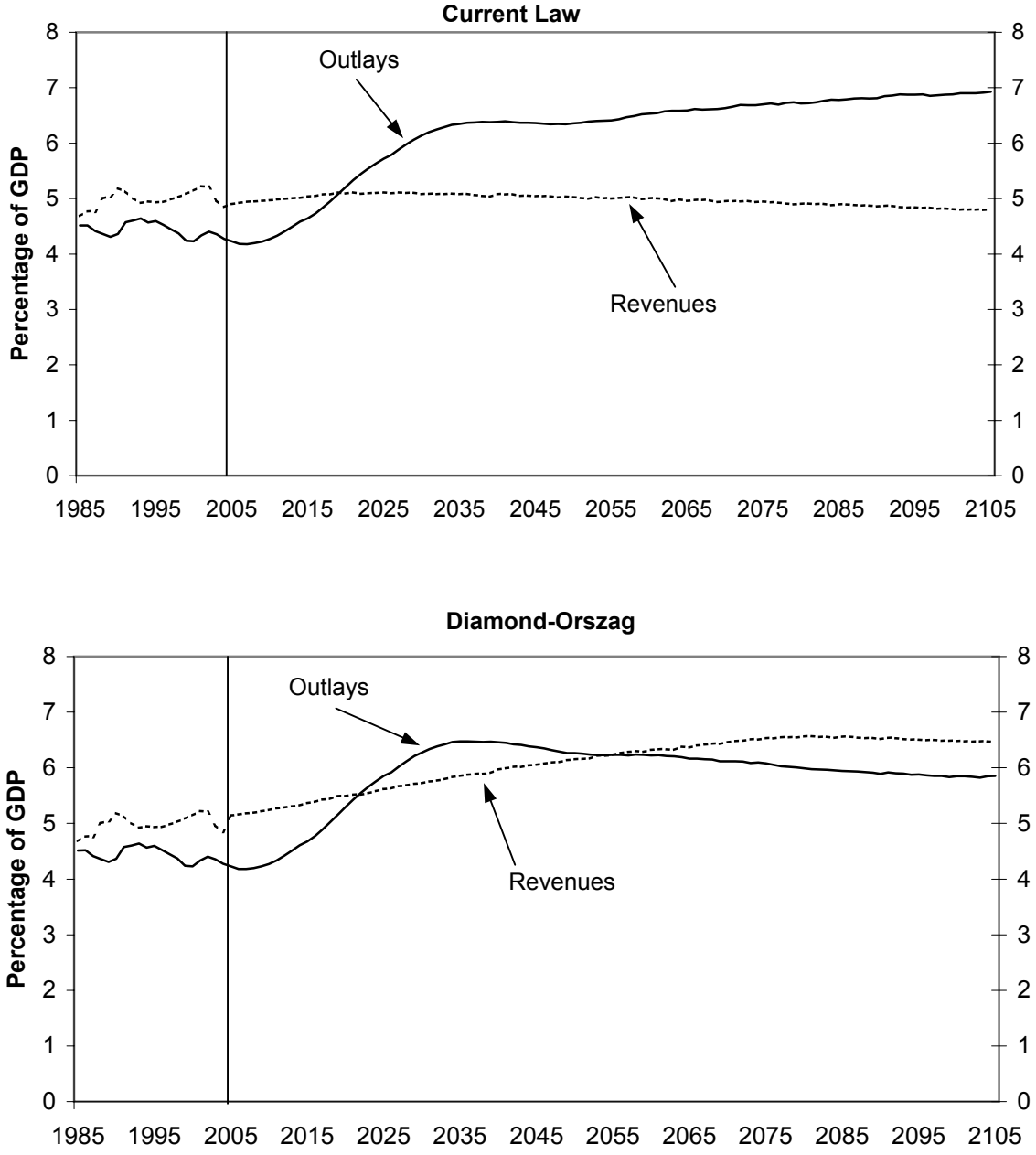
Trust fund balance—the amount of money held by the Social Security trust funds. Equal to the current spending authority for the program.

Trust-fund-financed benefits—benefits that can be paid from balances in the trust funds as specified in law; in years after trust-fund exhaustion, this is equal to benefits that can be financed from revenues in a given year.

Total budget—the presentation of the federal budget in which revenues from all sources and outlays to all activities are consolidated. Also called unified budget.

Figure 1A.

Social Security Revenues and Outlays as a Share of GDP Under the Scheduled Benefits Scenario, 1985 to 2105

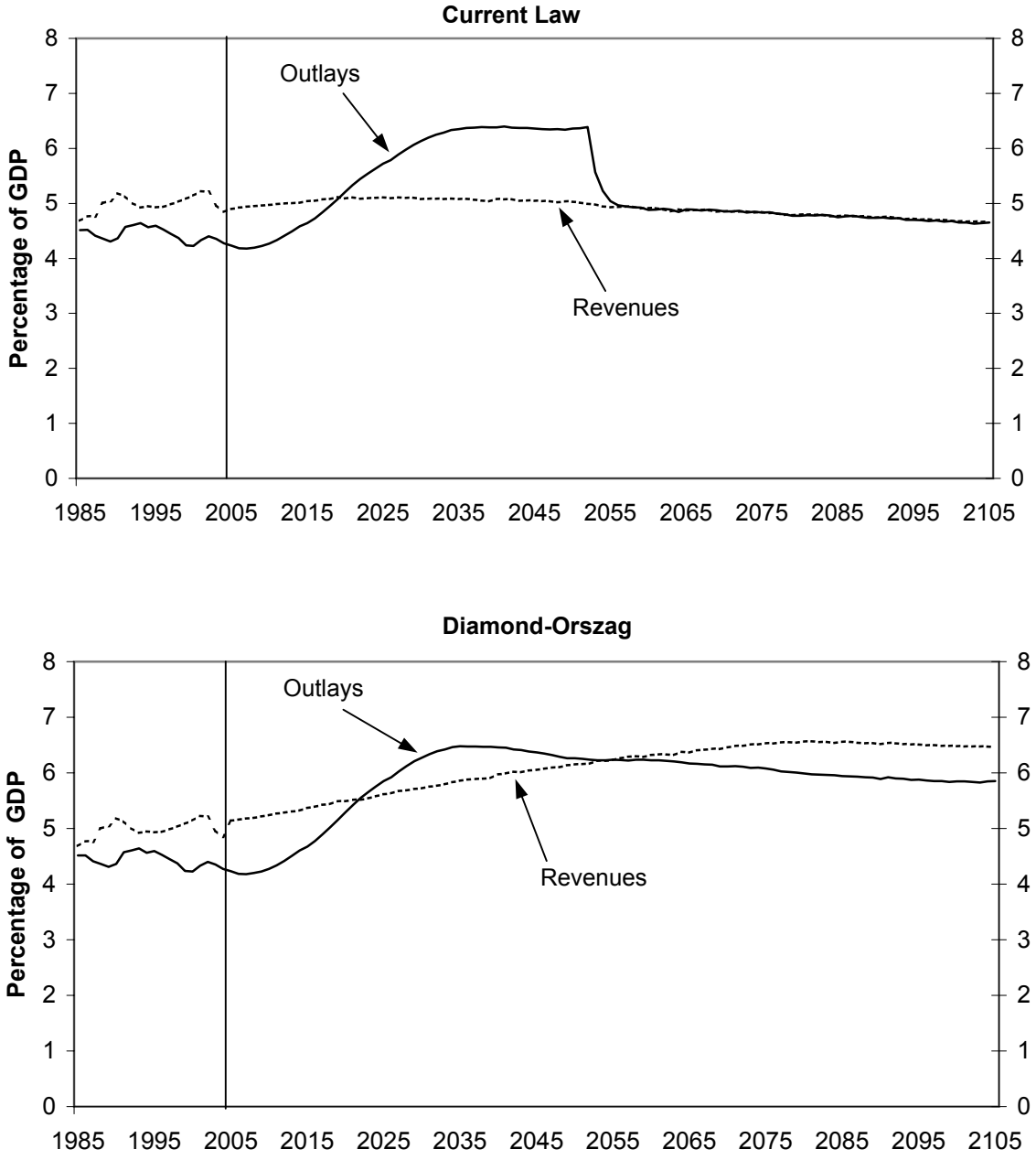


Source: Congressional Budget Office

Note: Based on a single simulation using the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. Revenues include payroll taxes and income taxes on benefits but not interest credited to the Social Security trust funds; outlays include scheduled Social Security benefits and administrative costs. Under current law, outlays begin to exceed revenues starting in 2020; starting in 2053 scheduled benefits cannot be paid. Under Diamond-Orszag, outlays begin to exceed revenues in 2022, but fall below revenues in 2056.

Figure 1B.

Social Security Revenues and Outlays as a Share of GDP Under the Trust-Fund-Financed Benefits Scenario, 1985 to 2105



Source: Congressional Budget Office

Note: Based on a single simulation using the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. Revenues include payroll taxes and income taxes on benefits but not interest credited to the Social Security trust funds; outlays include trust-fund-financed Social Security benefits and administrative costs. Under current law, outlays begin to exceed revenues starting in 2020; starting in 2053 scheduled benefits cannot be paid. Under Diamond-Orszag, outlays begin to exceed revenues in 2022, but fall below revenues in 2056.

Table 1A.

Effects of Diamond-Orszag as a Share of GDP Under the Scheduled Benefits Scenario, 2005 to 2105

	Based on a Single Simulation					
	2005	**2025**	**2045**	**2065**	**2085**	**2105**
Social Security Finances under Current Law						
Revenues /a	4.90	5.11	5.05	4.96	4.90	4.79
Outlays /b	4.23	5.72	6.36	6.59	6.78	6.93
Balance /c	0.67	-0.61	-1.32	-1.63	-1.88	-2.14
Effects on Balance of Diamond-Orszag Provisions /d						
Introduce super-COLA for disabled workers /e	0.00	-0.10	-0.19	-0.23	-0.25	-0.24
Enhance benefits for low earners	0.00	-0.07	-0.11	-0.12	-0.12	-0.11
Fully index retirement benefits to inflation	0.00	-0.01	-0.01	-0.02	-0.01	-0.01
Increase benefits for some widows	0.00	-0.01	-0.03	-0.02	-0.03	-0.03
Shift benefits from high-earner spouses to widows	0.00	0.00	-0.01	-0.02	-0.02	-0.02
Extend coverage to state and local workers	0.00	0.07	0.07	0.02	0.00	0.01
Reduce top PIA factor	0.00	0.02	0.08	0.11	0.13	0.12
Raise taxable maximum	0.00	0.11	0.17	0.17	0.15	0.11
Adjust taxes for increasing life expectancy	0.00	0.07	0.16	0.23	0.31	0.36
Adjust benefits for increasing life expectancy	0.00	0.02	0.11	0.23	0.35	0.43
Impose tax on earnings above taxable maximum	0.24	0.23	0.27	0.30	0.31	0.31
Further increase base tax rate beginning in 2023	0.00	0.04	0.28	0.53	0.73	0.72
Further reduce benefits beginning in 2023	0.00	0.01	0.20	0.53	0.85	0.99
Interactions Among Provisions	0.00	-0.01	0.01	0.11	0.10	0.10
Total Effects, All Provisions	0.24	0.37	1.00	1.83	2.50	2.75
Social Security Finances Under Diamond-Orszag						
Revenues	5.14	5.62	6.05	6.37	6.56	6.46
Outlays	4.23	5.85	6.37	6.17	5.94	5.85
Balance	0.91	-0.24	-0.31	0.20	0.61	0.61
Transfers from rest of government	0.00	0.00	0.00	0.00	0.00	0.00

	Based on Multiple Simulations /f					
	2005	**2025**	**2045**	**2065**	**2085**	**2105**
Balance Under Current Law						
Median - 50th Percentile	0.63	-0.62	-1.37	-1.58	-1.82	-2.03
10th Percentile	0.44	-1.47	-2.78	-3.50	-4.15	-4.55
90th Percentile	0.80	0.01	-0.24	-0.23	-0.31	-0.54
Balance Under Diamond-Orszag						
Median - 50th Percentile	0.87	-0.20	-0.16	0.57	1.11	1.25
10th Percentile	0.66	-1.05	-1.67	-1.32	-1.09	-0.56
90th Percentile	1.05	0.45	0.98	1.94	2.71	2.83

Source: Congressional Budget Office

Note: Based on Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions.

a. Revenues equal payroll taxes and income taxes on benefits as a share of gross domestic product (GDP) in the specified year but not interest credited to the Social Security trust funds.

b. Outlays equal scheduled Social Security benefits and administrative costs as a share of GDP in the specified year.

c. The balance is the difference between revenues and outlays as a share of GDP in the specified year; may not equal the difference due to rounding.

d. For more details about each provision, please refer to the appendix describing how CBO interpreted the provisions of Diamond-Orszag.

e. Super-COLA also applies to young survivors.

f. 10th, 50th, and 90th percentile values are based on 500 stochastic simulations for current law and for Diamond-Orszag. Percentiles are derived by ranking each simulation's outcome from worst to best regarding system finances. Actual outcomes have an 80 percent chance of falling between the 10th and 90th percentiles.

Table 1B.

Effects of Diamond-Orszag as a Share of GDP Under the Trust-Fund-Financed Benefits Scenario, 2005 to 2105

	Based on a Single Simulation					
	2005	**2025**	**2045**	**2065**	**2085**	**2105**
Social Security Finances under Current Law						
Revenues /a	4.90	5.11	5.05	4.89	4.75	4.66
Outlays /b	4.23	5.72	6.36	4.89	4.75	4.66
Balance /c	0.67	-0.61	-1.32	0.00	0.00	0.00
Automatic benefit reduction /d	0.00	0.00	0.00	1.63	1.89	2.14
Effects on Balance plus Automatic Benefit Reduction of Diamond-Orszag Provisions						
Introduce super-COLA for disabled workers /e	0.00	-0.10	-0.19	-0.23	-0.25	-0.24
Enhance benefits for low earners	0.00	-0.07	-0.11	-0.12	-0.12	-0.11
Fully index retirement benefits to inflation	0.00	-0.01	-0.01	-0.02	-0.01	-0.01
Increase benefits for some widows	0.00	-0.01	-0.03	-0.02	-0.03	-0.03
Shift benefits from high-earner spouses to widows	0.00	0.00	-0.01	-0.02	-0.02	-0.02
Extend coverage to state and local workers	0.00	0.07	0.07	0.02	0.00	0.01
Reduce top PIA factor	0.00	0.02	0.08	0.11	0.13	0.12
Raise taxable maximum	0.00	0.11	0.17	0.17	0.15	0.11
Adjust taxes for increasing life expectancy	0.00	0.07	0.16	0.23	0.31	0.36
Adjust benefits for increasing life expectancy	0.00	0.02	0.11	0.23	0.35	0.43
Impose tax on earnings above taxable maximum	0.24	0.23	0.27	0.30	0.31	0.31
Further increase base tax rate beginning in 2023	0.00	0.04	0.28	0.53	0.73	0.72
Further reduce benefits beginning in 2023	0.00	0.01	0.20	0.53	0.85	0.99
Interactions Among Provisions	0.00	-0.01	0.01	0.11	0.10	0.10
Total Effects, All Provisions	0.24	0.37	1.00	1.83	2.50	2.75
Social Security Finances Under Diamond-Orszag						
Revenues	5.14	5.62	6.05	6.37	6.56	6.46
Outlays	4.23	5.85	6.37	6.17	5.94	5.85
Balance	0.91	-0.24	-0.31	0.20	0.61	0.61
Transfers from rest of government	0.00	0.00	0.00	0.00	0.00	0.00
Automatic benefit reduction	0.00	0.00	0.00	0.00	0.00	0.00

	Based on Multiple Simulations /f					
	2005	**2025**	**2045**	**2065**	**2085**	**2105**
Balance Under Current Law						
Median - 50th Percentile	0.63	-0.62	-0.50	-0.02	0.01	0.02
10th Percentile	0.44	-1.47	-2.08	-1.20	-0.70	-0.25
90th Percentile	0.80	0.01	0.13	0.21	0.25	0.23
Balance Under Diamond-Orszag						
Median - 50th Percentile	0.87	-0.20	-0.07	0.59	1.16	1.31
10th Percentile	0.66	-1.05	-1.54	-0.92	-0.55	-0.42
90th Percentile	1.05	0.49	1.02	1.94	2.74	2.85

Source: Congressional Budget Office

Note: Based on Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions.

a. Revenues equal payroll taxes and income taxes on benefits as a share of gross domestic product (GDP) in the specified year but not interest credited to the Social Security trust funds.

b. Outlays equal trust-fund-financed Social Security benefits and administrative costs as a share of GDP in the specified year.

c. The balance is the difference between revenues and outlays as a share of GDP in the specified year; may not equal the difference due to rounding.

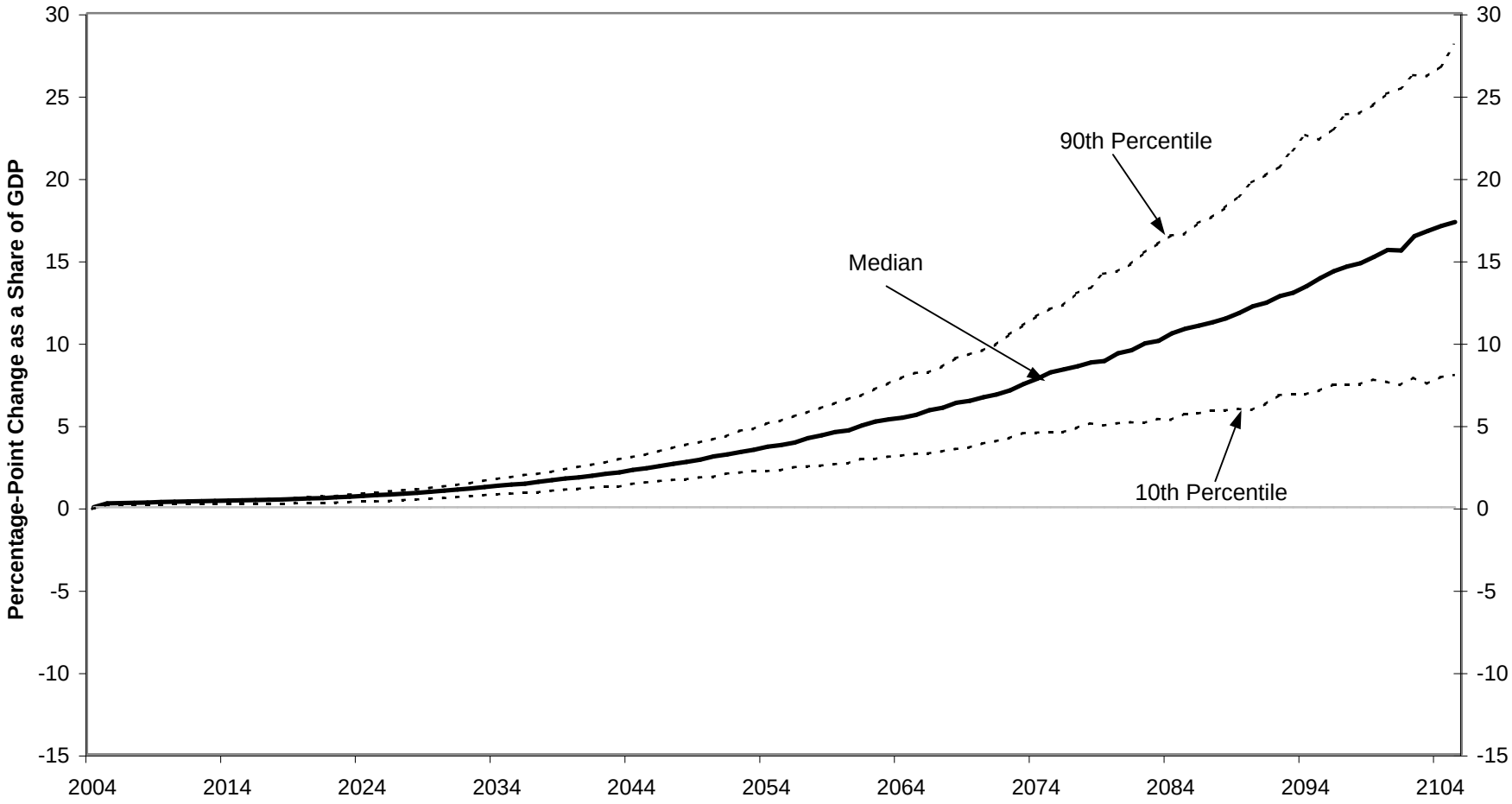
d. The automatic benefit reduction as a share of GDP is the drop in outlays that occurs through benefit cuts once the Social Security trust funds are exhausted.

e. Super-COLA also applies to young survivors.

f. 10th, 50th, and 90th percentile values are based on 500 stochastic simulations for current law and for Diamond-Orszag. Percentiles are derived by ranking each simulation's outcome from worst to best regarding system finances. Actual outcomes have an 80 percent chance of falling between the 10th and 90th percentiles.

Figure 2A.

Effects of Diamond-Orszag on Total Annual Budget Balances as a Share of GDP Under the Scheduled Benefits Scenario, 2004 to 2105

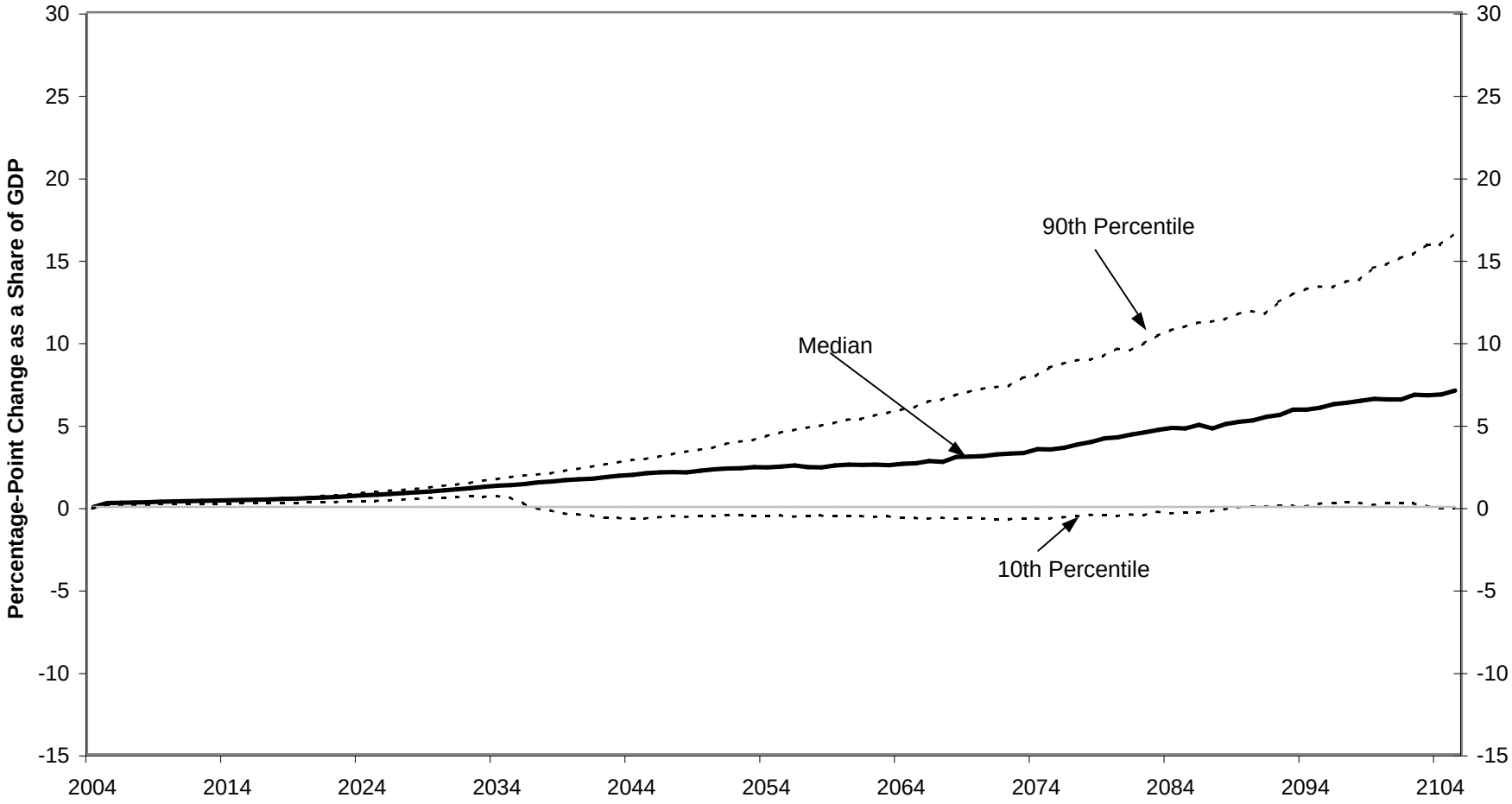


Source: Congressional Budget Office

Note: Based on 500 stochastic simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. The 10th and 90th percentiles, derived by ranking each stochastic outcome from worst to best regarding changes in total budget balances, span the 80 percent range of uncertainty. Annual total budget balances equal all federal receipts less all federal spending. Spending includes interest on outstanding debt.

Figure 2B.

Effects of Diamond-Orszag on Total Annual Budget Balances as a Share of GDP Under the Trust-Fund-Financed Benefits Scenario, 2004 to 2105



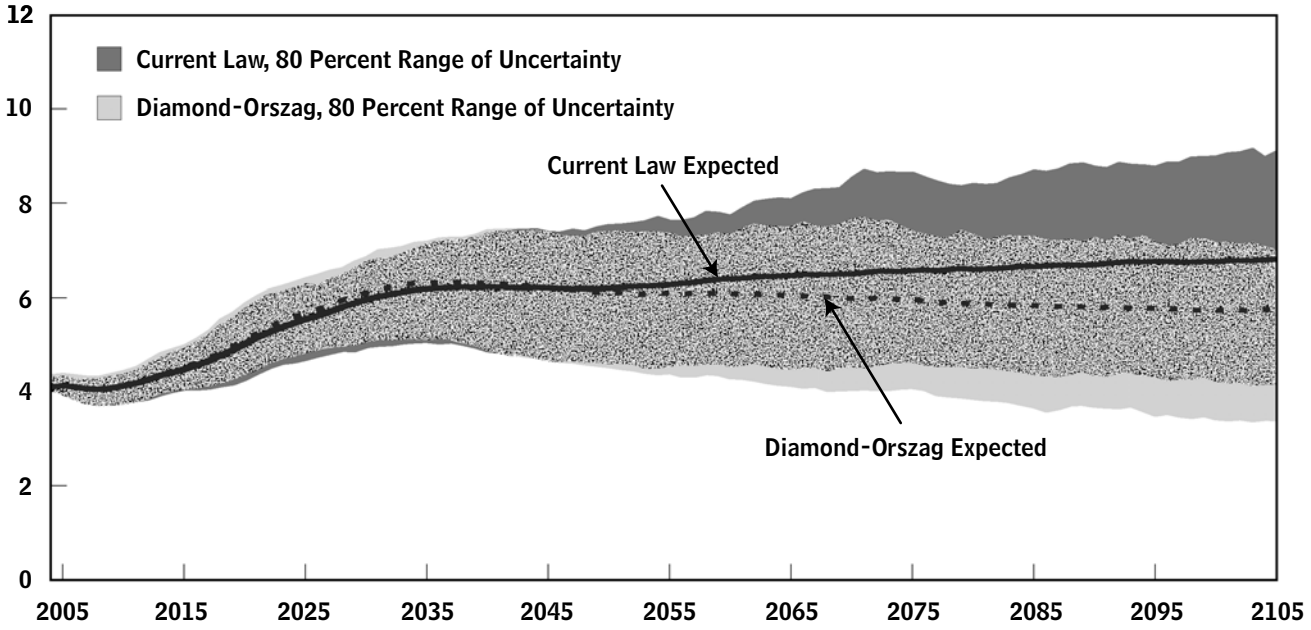
Source: Congressional Budget Office

Note: Based on 500 stochastic simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. The 10th and 90th percentiles, derived by ranking each stochastic outcome from worst to best regarding changes in total budget balances, span the 80 percent range of uncertainty. Annual total budget balances equal all federal receipts less all federal spending. Spending includes interest on outstanding debt.

Figure 3A.

Potential Range of Social Security Benefits as a Share of GDP Under the Scheduled Benefits Scenario for Current Law and Diamond-Orszag, 2004 to 2105

(Percentage of GDP)



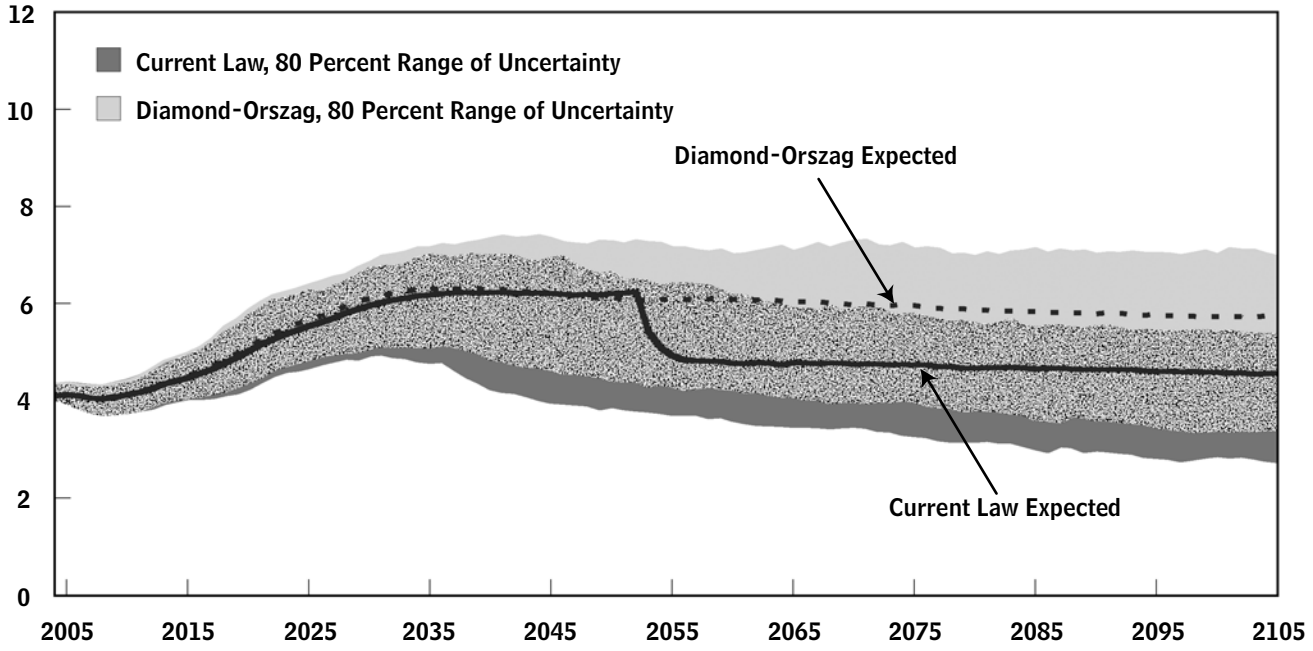
Source: Congressional Budget Office.

Note: Based on 500 stochastic simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. The light-shaded area represents the projected range of scheduled benefit payments as a percentage of GDP under current law; the dark-shaded area represents the projected range of proposed benefit payments under Diamond-Orszag. The ranges indicate the 80 percent range of uncertainty around each projection. The solid and dashed lines indicate the expected benefits.

Figure 3B.

Potential Range of Social Security Benefits as a Share of GDP Under the Trust-Fund-Financed Benefits Scenario for Current Law and Diamond-Orszag, 2004 to 2105

(Percentage of GDP)



Source: Congressional Budget Office.

Note: Based on 500 stochastic simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. The dark-shaded area represents the projected range of trust-fund-financed benefit payments as a percentage of GDP under current law; the light-shaded area represents the projected range of proposed benefit payments under Diamond-Orszag. The ranges indicate the 80 percent range of uncertainty around each projection. The solid and dashed lines indicate the expected benefits.

Table 2.

First-Year Annual Benefits for the Median Retired Worker If Benefits Are Claimed at Age 65, by Birth Cohort and Lifetime Earnings Level

	Current Law		Diamond-Orszag		
	Scheduled Benefits	Trust-Fund-Financed Benefits /a	Proposed Benefits	Trust-Fund-Financed Benefits	Benefits Financed with Intragovernmental Transfers /b
10-Year Birth Cohort Starting in Year	A	B	A	B	
	Median in Lowest Household Earnings Quintile				
1940	7,500	7,500	7,500	7,500	na
1950	8,200	8,200	8,600	8,600	na
1960	8,900	8,900	9,100	9,100	na
1970	9,700	9,700	9,700	9,700	na
1980	10,500	10,200	10,200	10,200	na
1990	12,200	9,400	11,300	11,300	na
2000	13,600	10,200	11,900	11,900	na
	Median in Middle Household Earnings Quintile				
1940	15,500	15,500	15,500	15,500	na
1950	15,700	15,700	15,600	15,600	na
1960	16,000	16,000	15,700	15,700	na
1970	18,400	18,400	17,400	17,400	na
1980	21,100	20,400	19,200	19,200	na
1990	24,100	18,600	21,000	21,000	na
2000	27,300	20,400	22,600	22,600	na
	Median in Highest Household Earnings Quintile				
1940	20,100	20,100	20,100	20,100	na
1950	22,100	22,100	21,700	21,700	na
1960	23,000	23,000	21,900	21,900	na
1970	26,000	26,000	23,600	23,600	na
1980	30,100	29,000	26,300	26,300	na
1990	34,200	26,400	28,700	28,700	na
2000	38,700	29,100	31,500	31,500	na

Source: Congressional Budget Office

Note: Based on a single simulation using the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. First-year annual benefits have been adjusted for inflation to put them into 2004 dollars. All workers are assumed to have claimed benefits at age 65.
All values are net of income taxes paid on benefits and credited to the Social Security trust funds.

a. The trust-fund-financed baseline subjects all beneficiaries to an across-the-board cut in benefits each year such that total projected benefits equal projected revenues once the Social Security trust funds have been exhausted, including any specified transfers into the trust funds. Current-law trust-fund-financed benefits are reduced starting in 2053; trust-fund-financed benefits under Diamond-Orszag are not reduced.

b. No intragovernmental transfers are necessary to finance benefits under Diamond-Orszag.

Table 3.

First-Year Replacement Rates for the Median Retired Worker If Benefits Are Claimed at Age 65, by Birth Cohort and Lifetime Earnings Level

	Current Law		Diamond-Orszag		
	Scheduled Benefits	Trust-Fund-Financed Benefits /a	Proposed Benefits	Trust-Fund-Financed Benefits	Benefits Financed with Intragovernmental Transfers /b
10-Year Birth Cohort Starting in Year	A	B	A	B	
	Median in Lowest Household Earnings Quintile				
1940	72.5	72.5	72.7	72.7	na
1950	69.4	69.4	72.9	72.9	na
1960	63.1	63.1	65.3	65.3	na
1970	65.5	65.5	65.0	65.0	na
1980	69.2	65.7	64.8	64.8	na
1990	67.1	51.8	61.2	61.2	na
2000	69.1	51.2	59.8	59.8	na
	Median in Middle Household Earnings Quintile				
1940	42.9	42.9	43.0	43.0	na
1950	42.7	42.7	42.8	42.8	na
1960	40.7	40.7	39.9	39.9	na
1970	40.2	40.2	37.8	37.8	na
1980	39.7	38.6	35.8	35.8	na
1990	39.5	30.5	34.2	34.2	na
2000	39.6	29.6	33.0	33.0	na
	Median in Highest Household Earnings Quintile				
1940	28.3	28.3	28.3	28.3	na
1950	27.9	27.9	27.6	27.6	na
1960	25.7	25.7	24.4	24.4	na
1970	24.8	24.8	22.6	22.6	na
1980	23.3	22.5	20.0	20.0	na
1990	22.9	17.8	19.3	19.3	na
2000	22.6	17.0	18.5	18.5	na

Source: Congressional Budget Office

Note: Based on a single simulation using the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. First-year replacement rates are computed as the ratio of first-year annual benefits to career average earnings. All workers are assumed to have claimed benefits at age 65.
All values are net of income taxes paid on benefits and credited to the Social Security trust funds.

a. The trust-fund-financed baseline subjects all beneficiaries to an across-the-board cut in benefits each year such that total projected benefits equal projected revenues once the Social Security trust funds have been exhausted, including any specified transfers into the trust funds. Current-law trust-fund-financed benefits are reduced starting in 2053; trust-fund-financed benefits under Diamond-Orszag are not reduced.

b. No intragovernmental transfers are necessary to finance benefits under Diamond-Orszag.

Table 4.

Present Value of Lifetime Benefits for the Median Retired Worker, by Birth Cohort and Lifetime Earnings Level

	Current Law		Diamond-Orszag		
	Scheduled Benefits	Trust-Fund-Financed Benefits /a	Proposed Benefits	Trust-Fund-Financed Benefits	Benefits Financed with Intragovernmental Transfers /b
10-Year Birth Cohort Starting in Year	A	B	A	B	
	Median in Lowest Household Earnings Quintile				
1940	61,100	61,100	61,300	61,300	na
1950	68,600	68,600	71,700	71,700	na
1960	75,900	75,800	79,000	79,000	na
1970	84,000	81,200	83,100	83,100	na
1980	89,600	76,800	86,200	86,200	na
1990	109,700	82,100	99,900	99,900	na
2000	123,500	87,900	106,300	106,300	na
	Median in Middle Household Earnings Quintile				
1940	143,900	143,900	143,700	143,700	na
1950	157,200	157,100	160,700	160,700	na
1960	166,400	165,000	168,400	168,400	na
1970	196,500	186,100	190,600	190,600	na
1980	228,300	191,200	216,300	216,300	na
1990	266,200	199,500	238,400	238,400	na
2000	313,400	224,100	263,700	263,700	na
	Median in Highest Household Earnings Quintile				
1940	216,600	216,600	216,600	216,600	na
1950	242,400	242,300	237,500	237,500	na
1960	254,300	252,600	243,300	243,300	na
1970	294,100	277,700	270,600	270,600	na
1980	355,700	291,600	313,100	313,100	na
1990	403,600	301,500	345,600	345,600	na
2000	474,000	339,700	389,000	389,000	na

Source: Congressional Budget Office

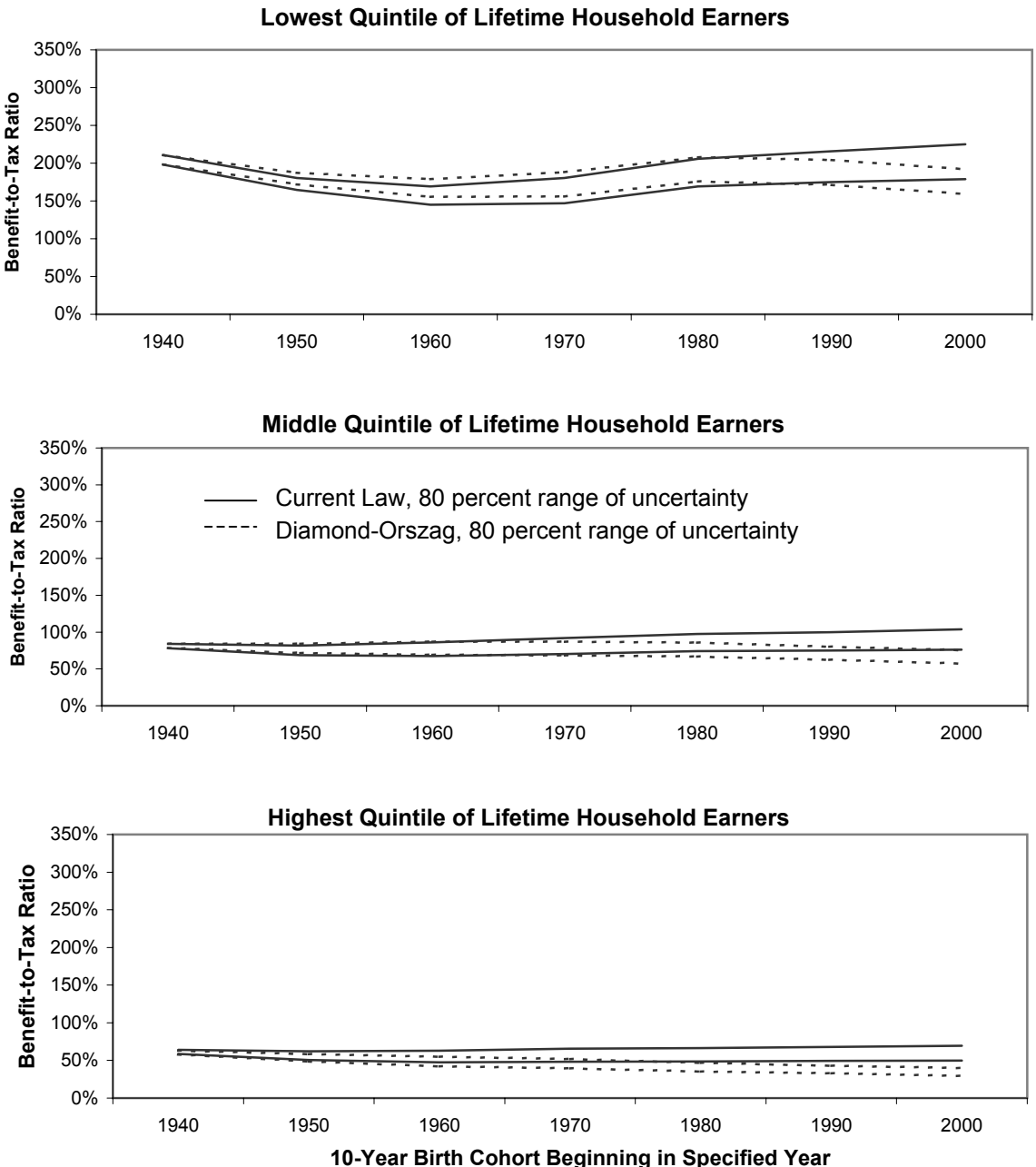
Note: Based on a single simulation using the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions. The present values of lifetime retirement benefits are computed by discounting to age 60 benefits received from the initial claim until death and adjusting each for inflation into 2004 dollars. All values are net of income taxes paid on benefits and credited to the Social Security trust funds.

a. The trust-fund-financed baseline subjects all beneficiaries to an across-the-board cut in benefits each year such that total projected benefits equal projected revenues once the Social Security trust funds have been exhausted, including any specified transfers into the trust funds. Current-law trust-fund-financed benefits are reduced starting in 2053; trust-fund-financed benefits under Diamond-Orszag are not reduced.

b. No intragovernmental transfers are necessary to finance benefits under Diamond-Orszag.

Figure 4A.

Potential Range of the Ratio of Lifetime Benefits to Lifetime Taxes Under the Scheduled Benefits Scenario for Current Law and Diamond-Orszag, by Birth Cohort and Lifetime Earnings Level

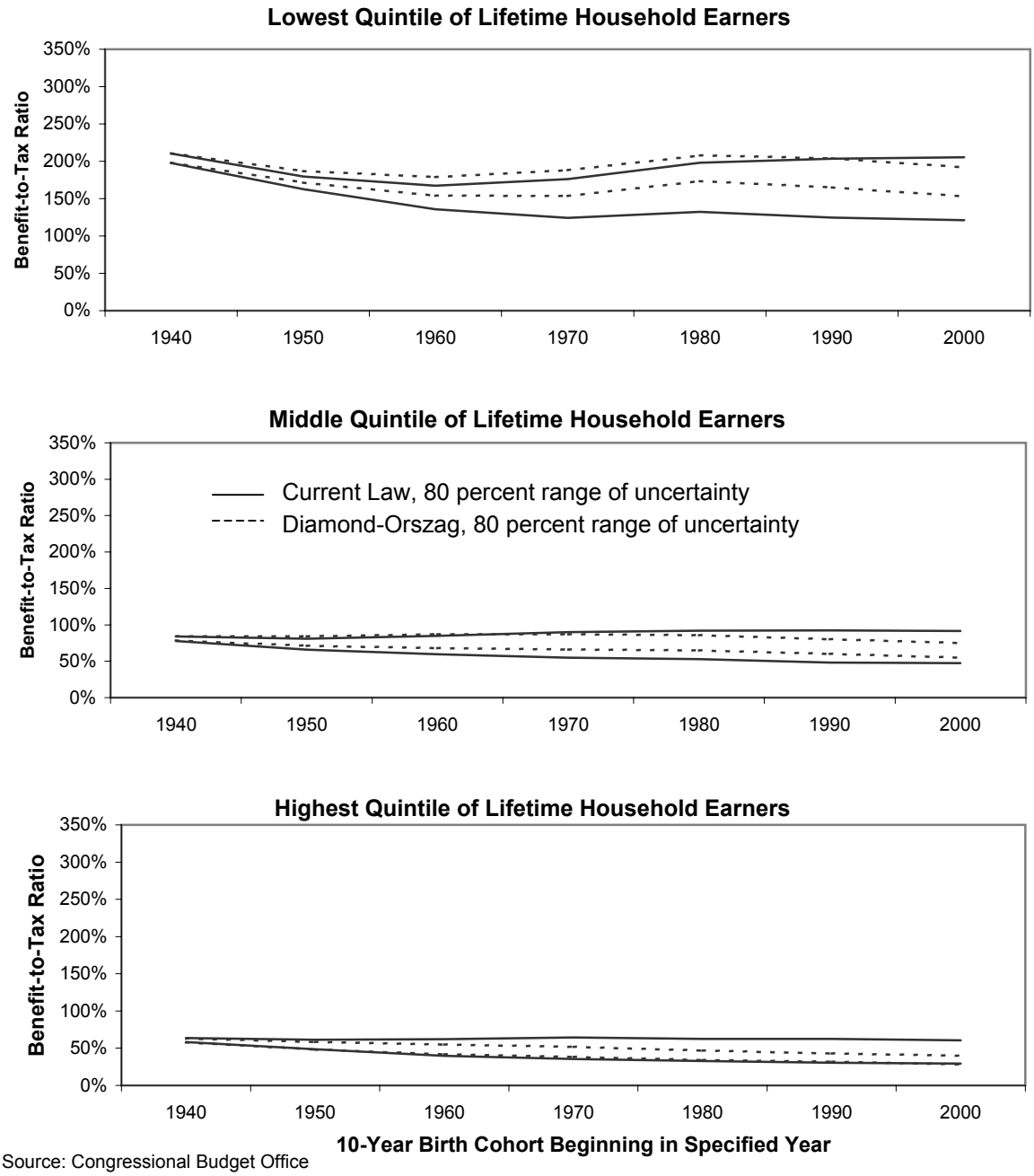


Source: Congressional Budget Office

Note: Based on 500 simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions, including only simulated individuals who live to at least age 45. Benefits include scheduled Social Security benefits net of income taxes. Taxes include employer and employee payroll taxes levied below and above the taxable maximum. The 80 percent range of uncertainty reflects the range in which actual outcomes have an 80 percent chance of falling.

Figure 4B.

Potential Range of the Ratio of Lifetime Benefits to Lifetime Taxes Under the Trust-Fund-Financed Benefits Scenario for Current Law and Diamond-Orszag, by Birth Cohort and Lifetime Earnings Level



Source: Congressional Budget Office

Note: Based on 500 simulations centered around the Social Security trustees' 2004 intermediate demographic assumptions and CBO's August 2004 economic assumptions, including only simulated individuals who live to at least age 45. Benefits include trust-fund-financed Social Security benefits net of income taxes. Taxes include employer and employee payroll taxes levied below and above the taxable maximum. The 80 percent range of uncertainty reflects the range in which actual outcomes have an 80 percent chance of falling.