



Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model

Laura Haltzel

Specialist in Income Security

Dawn Nuschler

Specialist in Income Security

Kathleen Romig

Analyst in Income Security

Gary Sidor

Information Research Specialist

Scott Szymendera

Analyst in Disability Policy

Mikki Devine Waid

Applications Developer, Client-Server and WEB

Debra B. Whitman

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Summary

The Social Security system is currently generating surplus tax revenues. However, under the intermediate assumptions of the Social Security Board of Trustees, the trust funds are estimated to be depleted in 2040, at which point 74% of benefits would be payable with incoming receipts. The primary reason is demographics: between 2010 and 2030, the number of people aged 65 and older is projected to grow by 76% while the number of workers supporting the system is projected to grow by 6%. In addition, the trustees project that the system will begin running *cash flow* deficits in 2017, at which point other federal receipts would be needed to meet benefit costs. If there are no other surplus governmental receipts, policymakers would have three options: raise taxes or other income, reduce spending, or borrow.

This report analyzes the effect of 12 Social Security solvency options on Social Security beneficiaries. These 12 individual options fall into 6 categories of reform proposals. For some reform options, we present two or more variations on how they could be approached. They include the most commonly discussed or introduced proposals to improve cash flow and achieve Social Security solvency:

- reducing the annual cost of living adjustment (COLA)
- increasing the number of computation years in the benefit formula
- increasing the full retirement age (FRA)
- longevity indexing initial Social Security benefits
- progressive price indexing initial Social Security benefits
- increasing earnings subject to Social Security payroll taxes by raising or eliminating the taxable earnings base.

The primary rationale for all of these options is to help achieve solvency by either cutting benefits (reducing spending) or increasing payroll taxes. There are also secondary reasons for most of the options: for example, encouraging longer working careers, accounting for increased longevity, making the payroll tax more progressive, etc. Each section of the report focuses on one reform category and explains current Social Security policy, reasons why some policymakers propose this particular type of reform, how the reform proposal works, the distributional effects of the reform proposal on various types of Social Security beneficiaries, and legislation related to the reform being analyzed. Distributional effects are presented in terms of Social Security beneficiaries' median payroll tax increase or benefit reduction and show the varied effect of these reforms on beneficiaries along socio-economic lines (i.e., age, type of benefit received, and income quintile).

CRS analysts used the Dynasim microsimulation model to project the effects of these reforms on Social Security beneficiaries in 2035, assuming the reforms first take effect in 2013.

This report will not be updated.

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Introduction

The Social Security system is facing a long-term financing problem. Social Security is primarily a pay-as-you-go system in which today's workers pay for the benefits of today's retirees. For every dollar paid into the Social Security system, approximately 75 cents is immediately paid out in benefits. Currently, the system is generating surplus tax revenues, which are invested in bonds and credited to the Social Security trust funds. However, under the intermediate assumptions of the Social Security Trustees, the system will begin running cash flow deficits in 2017, at which point Social Security must redeem any bonds (including interest) accumulated in previous years. Unless the government is running a surplus, redeeming the bonds would require cuts in overall spending, payroll tax increases, and/or borrowing. The trustees project that the trust funds will be depleted in 2040, at which point 74% of benefits would be payable with incoming receipts. The primary reason is demographics: between 2010 and 2030, the number of people age 65 and older is projected to grow by 76%, while the number of workers supporting the system is projected to grow by 6%.

This report analyzes how 12 options to improve Social Security solvency would affect Social Security beneficiaries in 2035 compared with current law.¹ They include the most commonly discussed or introduced proposals to improve cash flow and achieve Social Security solvency. CRS takes no position for or against any of the options presented in this report. The presentation of options in the report moves from least complex to most complex. The ordering of the 12 options, and the assumptions used in their analysis, reflect no policy recommendations or preferences on the part of CRS. For some reform options, two or more variations on how they could be approached are presented. Each option would affect beneficiaries differently. This report assumes that all of the options take effect in 2013 and shows the distributional impact of each option in 2035 using results from the Dynasim microsimulation model.² The following section outlines some of the major findings on how each option would affect beneficiaries. The Dynasim model is not an actuarial model and so cannot produce solvency estimates for these options.

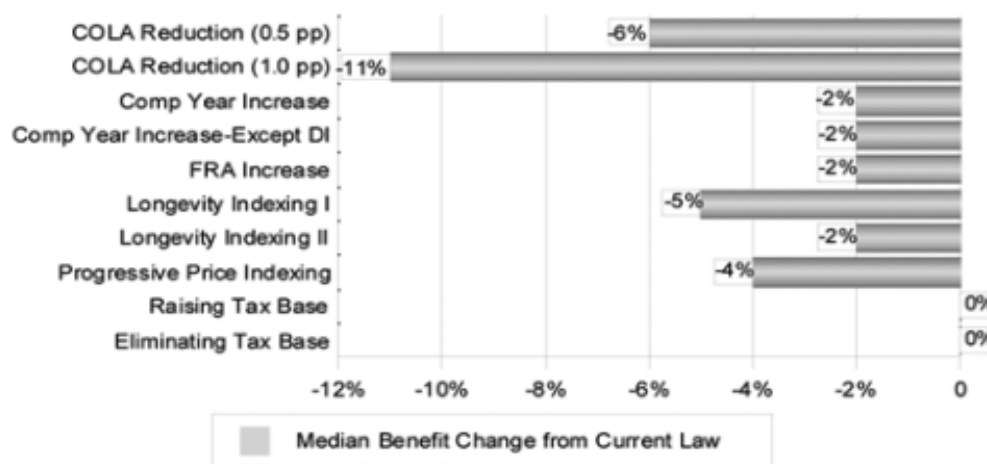
Major Findings

As shown in **Figure 1**, the magnitude of the benefit change that beneficiaries would experience varies greatly by policy option. Median benefit reductions for individuals receiving Social Security benefits in 2035 range from -11% for reducing the Social Security COLA by 1 percentage point to no reduction for the options to eliminate or raise the taxable earnings base.

¹ Those unfamiliar with the Social Security reform debate or the Social Security program may wish to first read the following reports: CRS Report RL33544, *Social Security Reform: Current Issues and Legislation*, by Dawn Nuschler; CRS Report 94-27, *Social Security: Brief Facts and Statistics*, by Gary Sidor; and CRS Report RL32279, *Primer on Disability Benefits: Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI)*, by Scott Szymendera.

² For information on the Dynasim microsimulation model, please see **Appendix E**.

Figure I. Median Percentage Change in Benefits Under Each Policy Option Compared with Current Law Among Beneficiaries in 2035



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Notes: Eliminating or raising the taxable earnings base would produce a median change in benefits of 0% compared with current law because only 22% of beneficiaries in 2035 would have benefits affected by the option. The computation year increases results shown are for the option to increase the number of computation years from 35 to 38. This figure does not show the effect of the two options to increase the computation years from 35 to 40.

The key results for each of these policy options are summarized below.

Reducing the Annual Cost-of-Living Adjustment (COLA)

In order to maintain purchasing power over time, Social Security benefits are increased annually by a cost-of-living adjustment (COLA). The COLA is based on inflation (i.e., price growth) and is applied starting in the year after an individual becomes eligible for benefits. This report examines two options to reduce the annual COLA: (1) reducing the COLA by half a percentage point and (2) reducing the COLA by one percentage point.

- Overall, an estimated 98% of beneficiaries in 2035 would be affected by a reduction in the COLA.
- Among Social Security beneficiaries in 2035, a half percentage point reduction in the COLA would result in a median benefit cut of approximately 6%; a one percentage point reduction would result in a median benefit cut of approximately 11%.³
- The longer a beneficiary has been eligible for benefits, the more his or her benefits would be cut because of reductions to the COLA.

³ This analysis includes all Social Security beneficiaries in 2035, regardless of whether they are receiving retired-worker, spousal, survivor, or disabled-worker benefits. The analysis presents results for the beneficiary at the median. This means that half of the beneficiary population in 2035 would experience larger benefit reductions and half of the beneficiary population in 2035 would experience smaller (or no) benefit reductions.

- Groups of beneficiaries with relatively long periods of eligibility for benefits would be disproportionately affected by both COLA options since the effect of the COLA reduction would be compounded for a longer period of time, including older beneficiaries, women, survivors, disabled beneficiaries, and low-income beneficiaries.

Increasing the Number of Computation Years in the Benefit Formula

Social Security benefits are calculated using the highest 35 years of a worker's taxable earnings. This report examines two options to increase the number of computation years from 35 to 38: (1) where all newly eligible beneficiaries are affected and (2) where only newly eligible retirement and survivor beneficiaries are affected, while disability beneficiaries are held harmless.

- Overall, an estimated 83% of all beneficiaries in 2035 would be affected by a change in the number of computation years if every newly eligible beneficiary was subject to the option; an estimated 67% of all beneficiaries in 2035 would be affected if disability beneficiaries were exempt from the change.
- Among beneficiaries in 2035, increasing the number of computation years from 35 to 38 would result in a median benefit cut of approximately 2%, regardless of whether disability beneficiaries are held harmless.
- The effects of increasing the number of computation years shown in this report are driven mostly by the fact that some beneficiaries become eligible before the option is assumed to take effect in 2013, and thus are not affected by the option.
- Some groups of beneficiaries are more likely to become eligible for benefits after the option takes effect. This includes those who are younger, have higher incomes, are retired worker beneficiaries, and are disability beneficiaries (unless they are held harmless).

Variations on the computation year options that would increase the number of computation years from 35 to 40 were also analyzed. These options yielded greater benefit reductions with nearly identical distributional effects.

Increasing the Full Retirement Age (FRA)

Social Security's full retirement age (FRA) is gradually increasing from 65 to 67 under current law. This report examines an option that would accelerate the current-law increase in the FRA and then further increase the FRA to age 70. This option would affect beneficiaries born in 1951 or later. Increasing the FRA would create an incentive for individuals to work longer or to delay taking up Social Security benefits.

- Overall, an estimated 64% of all beneficiaries in 2035 would be affected by increasing the FRA under this option.
- Among beneficiaries in 2035, increasing the FRA would result in a median benefit reduction of 2% overall.
- The FRA increase is phased in gradually over time. Thus, each successive cohort of beneficiaries would have deeper benefit cuts until the option is fully phased in. As a result, younger beneficiaries would have larger benefit reductions than would older beneficiaries.

- Retired worker and spouse beneficiaries would be disproportionately affected by the option to raise the FRA, since all disability and most survivor beneficiaries would be held harmless under this option. A majority of beneficiaries in each income quintile would receive a benefit reduction of less than 10%.

Longevity Indexing Initial Social Security Benefits

Despite the currently-scheduled increase in the Social Security full retirement age (FRA), the FRA has not been adjusted to fully account for increasing longevity; people retiring today at the FRA are receiving benefits for a longer period of time than those retiring at the FRA when the system was designed. This report examines two options to index (i.e., link reductions in) *initial* Social Security benefits to increases in longevity: (1) longevity indexing the primary insurance amount (PIA) formula factors; and (2) longevity indexing the PIA value and holding DI beneficiaries harmless until they reach the FRA.

- Overall, an estimated 84% of all beneficiaries in 2035 would be affected by longevity indexing the PIA formula factors for all newly eligible beneficiaries; an estimated 71% of beneficiaries in 2035 would be affected by longevity indexing the PIA value and exempting disability beneficiaries until they reached the FRA.
- Among beneficiaries in 2035, longevity indexing the PIA formula factors would result in a median benefit reduction of approximately 5%; longevity indexing the PIA value and holding disabled beneficiaries harmless until they reached the FRA would result in a median benefit reduction of about 2% compared with current law.
- The effects of longevity indexing increase over time. Thus, each successive cohort of beneficiaries would have deeper benefit cuts. As a result, younger beneficiaries would have larger benefit reductions than would older beneficiaries.
- Retired workers and higher-income beneficiaries would also be disproportionately affected by both longevity indexing options due to interactions of the policy changes with current-law Social Security program rules.

Progressive Price Indexing Initial Social Security Benefits

Currently, initial Social Security benefits are calculated based on an individual's past earnings, which are indexed (i.e., linked) to wage growth. Progressive price indexing would involve indexing the initial Social Security benefits of newly eligible beneficiaries to a combination of wage and price growth. Low-earning individuals would receive a benefit that is indexed closer to wage growth and high-earning individuals would receive a benefit that is indexed closer to price growth (i.e., inflation). Since wages have historically grown faster than prices, this change would progressively cut benefits.

- Overall, an estimated 69% of all beneficiaries in 2035 would be affected by progressive price indexing.
- Among beneficiaries in 2035, progressive price indexing would result in a median benefit reduction of about 4% compared with current law.
- The effects of progressive price indexing increase over time. Thus, each successive cohort of beneficiaries would have deeper benefit cuts. As a result, younger beneficiaries would have larger benefit reductions than would older beneficiaries.

- Higher-income beneficiaries would also have proportionately higher benefit reductions than lower-income beneficiaries since the option is designed to be progressive.

Raising or Eliminating the Taxable Earnings Base

Social Security payroll taxes are levied on earnings up to a maximum dollar amount set each year, called the taxable earnings base.⁴ The taxable earnings base serves as both a cap on contributions to the system (i.e., payroll taxes) and a cap on benefits. This report examines the effects of (1) raising the dollar amount of the taxable earnings base to 100% of aggregate covered earnings in the U.S. (eliminating the taxable earnings base) and (2) raising the dollar amount of the taxable earnings base to 90% of aggregate covered earnings in the U.S. (instead of the 85% currently taxed).

- Overall, an estimated one in five beneficiaries would earn more than the current-law earnings base at some point in their lifetimes and thus be affected by raising or eliminating the base. However, in a given year, fewer than 8% of workers are projected to earn more than the current-law taxable earnings base and only 1% of workers are projected to earn more than a base that covered 90% of all earnings.
- Looking only at beneficiaries in 2035 who ever earn more than the current base, the median increase in payroll taxes would be 3% and the median increase in benefits would be 2% compared with current law if the base were completely eliminated.
- Eliminating the taxable earnings base would affect primarily high-income beneficiaries. Half of all beneficiaries in the highest income quintile in 2035 would see their payroll taxes and benefits rise, although most would have relatively small increases. For example, in the highest quintile, 12% of beneficiaries would have payroll tax increases of 10% or more and 8% of beneficiaries would have benefit increases of 10% or more.
- Since each year only 1% of the population earns 10% of all earnings, the distributional effects of raising the taxable earnings base to cover 90% of earnings is nearly identical to eliminating the base entirely. The only difference between the options is that the share of individuals who have large payroll tax and benefit changes declines if the base is capped at 90% of earnings.

Policymakers could also raise or eliminate the taxable earnings base for tax purposes only and not credit the additional earnings toward an individual's benefits. Under this variation, the estimates of payroll tax increases would be the same as the options above, but benefits would be unchanged.

⁴ Social Security *payroll* taxes are levied on covered earnings. Upon benefit receipt, individuals within certain income brackets may pay *income* taxes on their Social Security benefit payments. The analysis in this report focuses exclusively on the distributional effects of raising or eliminating the level of earnings subject to *payroll* taxes.

Interpreting the Results

Why These Options?

The primary rationale for all of the options in this report is to improve the solvency of the Social Security system. All of the options would enhance long-range solvency by either cutting benefits or increasing payroll taxes. There are also secondary rationales behind most of the options—for example, some would reward longer working careers or account for increases in longevity.

The options in this report include the most commonly discussed or introduced proposals to improve cash flow and achieve Social Security solvency.⁵ Each option in this report is analyzed in isolation, but it is important to note that the options are typically proposed in combination with one another and/or with other Social Security reform features (such as individual accounts or benefit enhancements for low earners).⁶ The options analyzed in this report can be viewed as a set of building blocks for comprehensive Social Security reform.

When Would the Options Begin?

All of the options in this report are assumed to be implemented starting in 2013. The year 2013 was chosen since many policymakers have indicated a desire to leave the benefits of individuals who are currently age 55 or older unchanged, since they would have little time to alter their savings, work, or retirement plans. With the exception of the option to increase the full retirement age, none of the options presented in this report are phased in gradually over time. Any of the options could be implemented before or after 2013, or could be phased in gradually.

This analysis aims to compare all of the reform options using consistent assumptions and under identical circumstances. However, for some options, *all* beneficiaries would be affected starting in 2013, including those who became eligible for benefits before 2013 (e.g., reducing the COLA). For other options, only new beneficiaries—those who become eligible for benefits in 2013 or later—would be affected (e.g., progressive price indexing initial Social Security benefits). These differences are dictated by the nature of the reform options themselves and the particular Social Security program rules affected by these reform options.

How Far Into the Future Does This Analysis Look?

This report focuses on the effects of policy changes on beneficiaries in 2035. The figures and accompanying analysis are essentially a snapshot of the projected beneficiary population in this single year. Focusing on a different year would lead to different results.

⁵ Some solvency options, such as increasing the Social Security coverage of state and local government workers, altering the taxation of Social Security benefits, or investing a portion of the Social Security surplus in equities, cannot currently be modeled in this version of Dynasim. Therefore, these options are not included among the options analyzed in this report.

⁶ Combining any of the options with one another or with other features could significantly alter their distributional impacts. Thus, it is not possible to sum the results of any combination of options shown in this report since the options could interact in unexpected ways.

The year 2035 was selected for this analysis because it balances two competing goals. The first goal is to allow a sufficient amount of time to pass for the differing effects of the policy options to become clear once the new policies are implemented. Since all of the options are assumed to begin in 2013, by 2035 most beneficiaries would be affected. An earlier date may not capture the disparate effects of the options, particularly for those options with relatively small annual changes. The second goal is to provide the most reliable information possible. Since it is impossible to accurately predict the future, all projection models contain some level of uncertainty. The further into the future one projects, the greater the estimates may ultimately deviate from reality. The most accurate data are the actual observations that exist when the projection period began. The youngest individuals eligible to receive retirement benefits in 2035 would have been born in the early 1970s, and so actual data would be included in the model's projection of their retirement benefits. Extending the analysis to periods much later than 2035 would rely more heavily on the model's assumptions about future trends.

Under some of the options, not all beneficiaries in 2035 would be affected. This is because some of the options apply only to beneficiaries who become eligible for benefits in 2013 or later (e.g., progressive price indexing). For these options, the analysis in 2035 will show a sizable group of beneficiaries who are not subject to the change since they became eligible for benefits before 2013. Because the proportion of beneficiaries who become eligible for benefits before 2013 varies significantly by socio-economic characteristics, the date of implementation drives many of the results in 2035, particularly the results by age.

Results shown for 2035 also do not reflect the full impact of the options over time. The effect of some options increases over time (e.g., longevity indexing). Under these options, each successive cohort of beneficiaries would be affected more than the last, so that a beneficiary who becomes eligible 50 years after implementation would be affected much more than a beneficiary who becomes eligible in the first year, all other things being equal. For other options, the magnitude of the benefit change does not increase over time (e.g., increasing the number of computation years). Under these options, each successive cohort of beneficiaries would be subject to the same rules, so that a beneficiary who becomes eligible 50 years after implementation would experience the same magnitude of change as a beneficiary who becomes eligible in the first year, all other things being equal. Since the analysis in this report focuses on a single year, these distinctions are not shown.

What Do the Figures Show?

The analysis for each option includes a figure that breaks down the effect of the policy change on beneficiaries in 2035 by benefit type, age group, and/or other categories. These figures show the median percentage difference between benefits under current law and benefits under the option.⁷ The *median* is the midpoint in a group of values, such that half the values are above the median and half are below. Unlike a mean (or average), a median will not be skewed by a small number of extremely large or extremely small values. For example, consider five beneficiaries affected by a policy option. One loses her entire benefit under the option (meaning she has a change of

⁷ The report compares benefits under each option to *scheduled* benefits under current law. Some other analyses compare benefits under policy options to *payable* benefits, or the level of benefits that could be funded with current funding levels. However, the 2005 Trustees Report (on which this analysis is based) projects that the trust funds will remain solvent until 2041. Since the analysis in this report focuses on 2035, scheduled benefits and payable benefits would be the same amount.

-100%). The other four beneficiaries have benefit changes of -3%, -2%, -2%, and -1%, compared with current law. The median percentage change for this group would be -2% because -2% is the third value of the five values arranged from least to greatest. The mean percentage change would be -22% because it is the sum of all five values divided by five. Since policy changes sometimes result in very large benefit changes (such as beneficiaries gaining or losing a benefit) for a few beneficiaries, the median is a good measure of how a policy would affect a typical beneficiary.

The analysis for each option also includes a figure that shows the magnitude of the change for all beneficiaries, broken down by income quintile to show whether an option is progressive or regressive. (For more information on income quintiles, please see the subsection below called “Breakdowns by Income Quintile.”) These figures show how beneficiaries at different levels of income would be affected. For example, the figures show what proportion of beneficiaries in each of the five quintiles have benefit reductions of up to 10%, reductions from 10% to 19%, etc. If low-income beneficiaries would receive deeper cuts under an option relative to high-income beneficiaries, that option is regressive. If high-income beneficiaries would receive deeper cuts under an option relative to low-income beneficiaries, that option is progressive.

Every attempt has been made to be consistent in the presentation of the results of the analysis. The same benefit reduction scale has been used in all figures across the various reform options so as not to visually skew the results. Furthermore, the figures for all of the options include the entire Dynasim population, with one exception due to the nature of the results from the policy option. Most of the figures for the options to raise or eliminate the taxable earnings base include *only* beneficiaries who would be affected by the option. (Since a relatively small share of beneficiaries would be affected by the options to raise or eliminate the taxable earnings base, including the entire Dynasim population in the figures for these options would show only that the average beneficiary in each subgroup was not affected.)

Breakdowns by Benefit Type

Most of the policy options include figures in the report that break down the beneficiary population by the type of Social Security benefits they receive. Four types of Social Security beneficiaries are analyzed in this report: retired worker beneficiaries who receive a Social Security benefit based on their own earnings; disabled worker beneficiaries who receive a Social Security disability benefit based on their own earnings; spouse beneficiaries who receive a Social Security retirement benefit based on their working spouse’s earnings; and, survivor beneficiaries who receive Social Security survivor benefits based on their deceased spouse’s earnings. Some individuals may qualify for more than one type of benefit.

In the analysis that follows, the *retirement benefits only* category and the *disability benefits only* category are made up of beneficiaries who receive solely a retired or disabled worker benefit, not a spouse or survivor benefit. The *survivor benefits* category and the *spouse benefits* category include both beneficiaries who receive solely spouse or survivor benefits as well as those who receive both a spouse or survivor benefit and a retired or disabled worker benefit (i.e., dually entitled beneficiaries). The disability benefit only category includes both beneficiaries receiving disability benefits in 2035 and those who originally received disability benefits but automatically converted to retirement benefits at the full retirement age (as required by law).

Breakdowns by Age

Most of the policy options include figures in the report that break down the beneficiary population by age group. These categories reflect beneficiaries' ages as of 2035. It is important to note that beneficiaries in the age 61 and younger category are primarily disability beneficiaries but also include some aged survivor beneficiaries who began to receive benefits at age 60 or 61. (Other Social Security beneficiaries who are eligible to receive benefits before age 60—such as young widow(er)s, children of retired, disabled, or deceased workers—are not included in the analysis in this report.) For retirement beneficiaries, the earliest age of eligibility is age 62. Thus, no retirement beneficiaries are included in the age 61 and younger category.

Breakdowns by Income Quintile

All of the policy options include figures in the report that break down the beneficiary population by income quintile. In other words, they separate the Dynasim population into five equal parts—the one-fifth with the highest incomes, the one-fifth with the second-highest incomes, etc., down to the one-fifth with the lowest income. For the purposes of this analysis, income includes Social Security benefits, Supplemental Security Income (SSI) benefits, pension payments, earnings, and the annuitized value of financial assets. Income is calculated on a per capita basis, which means that for married couples the income of both spouses is averaged together.

It is important to note the distinction between income levels and Social Security benefit amounts. Some beneficiaries with relatively low Social Security benefit amounts may be included in one of the higher income quintiles and vice versa. For example, a beneficiary married to a person with a high income may be in one of the higher income quintiles despite receiving a small Social Security benefit. Similarly, a beneficiary with a relatively large Social Security benefit but with no other income may be in one of the lower income quintiles.

Why Do Some of the Results Seem Counterintuitive?

Sometimes the results shown in this report may be unexpected. For example, an option to cut Social Security benefits could result in a small number of beneficiaries receiving an increase in their benefits. Such counterintuitive results are not errors, but interactions between the option and the current law Social Security rules. For example, the interaction between the current law retirement earnings test (RET) and certain options to reduce benefits leads to benefit increases for some beneficiaries who were subject to the RET before reaching the full retirement age, but are currently older than the full retirement age. (For a full explanation of how this interaction works, please see **Appendix C**.)

One of the advantages of a microsimulation model such as Dynasim is that it brings unexpected interactions between policy options and program rules to light. Social Security is a complex program, and changes to its structure could result in unintended consequences. Where relevant, these issues are highlighted in the report.

How Much Would These Options Contribute to Solvency?

Dynasim is a microsimulation model that cannot calculate the solvency impact of the options analyzed in this report.⁸ To allow readers to gauge approximately how much these options might contribute to solvency, this report includes official estimates of the long-term solvency impact of similar provisions published by the Office of the Chief Actuary at the Social Security Administration, where available. These figures should be interpreted as “ball-park estimates” and do not represent the impact of the options modeled in this report. In all cases, the provisions the actuaries have estimated vary somewhat from the options analyzed in this report. For example, in many cases the actuaries have assumed that a provision was first implemented in 2006 or phased in gradually, while all of the options in this report are assumed to be implemented in 2013 with no phase-in.

Who Is Included in the Analysis?

The analysis in this report focuses on individuals who are projected to receive Social Security retired worker, spouse, aged survivor and/or disability benefits in 2035. However, the Dynasim population does *not* include individuals who are projected to receive other types of Social Security benefits, including the children of retired, disabled, or deceased workers, surviving spouses under age 60 with a child in care, and the aged parents of deceased workers.

How Does Dynasim Estimate Future Benefits?

The Dynasim model estimates future Social Security benefits by using a mix of historical data and projections. The historical data—which include actual beneficiaries’ earnings, marital histories, Social Security benefits, and more—come from the Survey of Income and Program Participation (SIPP), the Current Population Survey (CPS), the Panel Study of Income Dynamics (PSID), and other sources. Using the historical data as a base, Dynasim projects future economic and demographic patterns by using the 2005 Social Security Trustees’ official assumptions about future trends as well as statistical methods that take into account individual beneficiaries’ characteristics. When interpreting the results of Dynasim or any other model, it is important to note that projections are inherently imprecise; the further into the future one looks, the wider the range of possible outcomes. (For a full explanation, please see **Appendix E**.)

Where Can Readers Find Out More?

In analyzing the options, this report refers to some Social Security program rules, technical details, and terminology that may be unfamiliar to readers. Detailed explanations of Social Security program rules and their potential interactions with policy options, along with an explanation of how the Dynasim model works and a glossary of Social Security and technical terms may be found in the following appendices of the report:

- **Appendix A**, “Computation of the Primary Insurance Amount (PIA) Under Current Law”

⁸ Please see **Appendix E** for additional details on the Dynasim model.

- **Appendix B**, “Interaction of Spouse and Aged Survivor Benefit Rules with Policy Options”
- **Appendix C**, “Interaction of the Retirement Earnings Test with Policy Options”
- **Appendix D**, “Technical Description of the Progressive Price Indexing Option”
- **Appendix E**, “Background on the Urban Institute’s Dynasim Model”
- **Appendix F**, “Glossary.”

Readers who are interested in seeing full distributional results of the options analyzed in this report may access a complete set of tables for each option in CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*.⁹ These tables include breakdowns by sex, race and ethnicity, educational attainment, age category, marital status, benefit type, and income quintile. These tables show the mean and median percentage change in benefits for each subgroup as well as the distribution of the changes for each subgroup.

Reduce the Social Security Cost-of-Living Adjustment (COLA)

Social Security COLA Under Current Law

After a person becomes eligible to receive Social Security benefits, his or her monthly benefit amount is increased each year to maintain purchasing power over time. At the end of each year, the Social Security Administration (SSA) announces the cost-of-living adjustment (COLA) used to increase benefits payable beginning in January of the following year. The amount of the COLA is based on inflation as measured by changes in the Consumer Price Index-Urban Wage Earners and Clerical Workers (CPI-W).¹⁰

Reasons Some Policymakers Propose Reducing the Annual COLA

Reducing the annual COLA would reduce Social Security expenditures and help restore solvency. Some economists believe that the CPI-W, on which the COLA is based, tends to overstate the amount of overall inflation.¹¹ If true, this overstatement would mean that the COLA is increasing

⁹ See CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*, by Laura Haltzel et al.

¹⁰ To measure inflation, the CPI-W tracks the prices of a fixed market basket of goods and services over time. Social Security’s COLA is calculated as the change in the CPI-W from the third quarter of the prior calendar year to the third quarter of the current calendar year. If the CPI-W increases during this period, Social Security benefits for the next year increase proportionately. If the CPI-W decreases, Social Security benefits stay the same. For more information on the COLA, see CRS Report 94-803, *Social Security: The Cost-of-Living Adjustment in January 2009*, by Gary Sidor. For more information on the CPI-W, see CRS Report RL30074, *The Consumer Price Index: A Brief Overview*, by Brian W. Cashell.

¹¹ For example, in 1996, the Boskin Commission to study the CPI estimated that the CPI overstated inflation by about 1.1 percentage points per year. (*Toward A More Accurate Measure Of The Cost Of Living*, Final Report to the Senate Finance Committee from the Advisory Commission to Study the Consumer Price Index, December 4, 1996, at <http://www.ssa.gov/history/reports/boskinrpt.html>). After the Boskin Commission report, the Bureau of Labor Statistics (continued...)

the purchasing power of Social Security benefits over time instead of maintaining purchasing power. However, others argue that the CPI-W *understates* the amount of inflation for the elderly, who make up the substantial majority of Social Security beneficiaries.¹² If true, this understatement would mean that the COLA is ineffective in maintaining the purchasing power of Social Security benefits for elderly beneficiaries.

Options to Reduce the COLA

This report examines two options to reduce the annual COLA:

- Reducing the annual COLA by 0.5 percentage points and
- Reducing the annual COLA by 1.0 percentage point.

Projected future COLA increases are taken from the 2005 Social Security Trustees Report. To model the first policy option above, the annual projected COLA increase in 2013 of 2.8% is reduced by 0.5 percentage points to be 2.3% (i.e., 2.8% minus 0.5%). To model the second policy option above, the projected current-law COLA in 2013 of 2.8% would be reduced to 1.8% (i.e., 2.8% minus 1.0%). Since the 0.5 percentage point and 1.0 percentage point reductions would also apply each year after 2013, the size of the reduction would be compounded over time so with each additional year of eligibility, the reduction would increase.¹³ For both options, the changes are assumed to begin in 2013 and to affect all Social Security beneficiaries, including disabled beneficiaries and those who began to receive benefits before the change was implemented.

Distributional Effects in 2035

The longer a beneficiary is eligible for Social Security benefits, the more he or she would be affected by reductions to the COLA, since the effects of the option compound over time. For example, the first year after an individual becomes eligible for benefits, his or her benefit would be 0.5% lower than current law if the COLA were reduced by half a percentage point and 1.0% lower than current law if the COLA were reduced by one percentage point. Each year, the difference between benefits under the COLA option and current law increases, so that by the 10th year of benefit eligibility, benefits would be 5% lower than current law if the COLA were reduced by half a percentage point and 9% lower than current law if the COLA were reduced by one percentage point. By the 30th year of benefit eligibility, benefits would be 14% lower than current law if the COLA were reduced by half a percentage point and 25% lower than current law if the COLA were reduced by one percentage point.

(...continued)

changed the way the CPI is calculated, reducing the growth of the CPI by an estimated 0.7 percentage points. (Congressional Budget Office, "Changes in Calculating the Consumer Price Indexes," *The Economic and Budget Outlook: Fiscal Years 2000-2009*, January 1999, at <http://www.cbo.gov/showdoc.cfm?index=1059&sequence=11>.)

¹² For example, some analysts suggest using the Experimental Price Index for Americans 62 Years of Age or Older (CPI-E) rather than the CPI-W. Among other differences, the CPI-E takes into account the rising cost of health care for older consumers. Between December 1982 and December 2005, the CPI-E grew an average of 0.3 percentage points faster per year than the CPI-W. (See CRS Report RS20060, *A Separate Consumer Price Index for the Elderly?*, by Brian W. Cashell.)

¹³ For example, after 21 years of benefit eligibility, the reduction in benefits under an option that cut the COLA by a half percentage point would be just over 10%, since the 0.005 reduction would be compounded over time (i.e., $(0.995)^{21} = .90$). With each additional year of eligibility, the reduction would increase.

Because of the compounding nature of COLA reductions, between 2013 and 2035, groups of beneficiaries with relatively long periods of eligibility would be disproportionately affected by both COLA options. These groups include older beneficiaries, women, survivors, disabled beneficiaries, and low-income beneficiaries. The oldest beneficiaries tend to receive benefits for long periods because of their longevity. Women have longer life expectancies than men. Survivor beneficiaries may become eligible for benefits at a younger age and tend to live longer than other types of beneficiaries.¹⁴ Disability beneficiaries also become eligible for benefits at younger ages. Low-income beneficiaries are more likely to be female and also to receive disability and survivor benefits.¹⁵

COLA Minus 0.5 Percentage Points

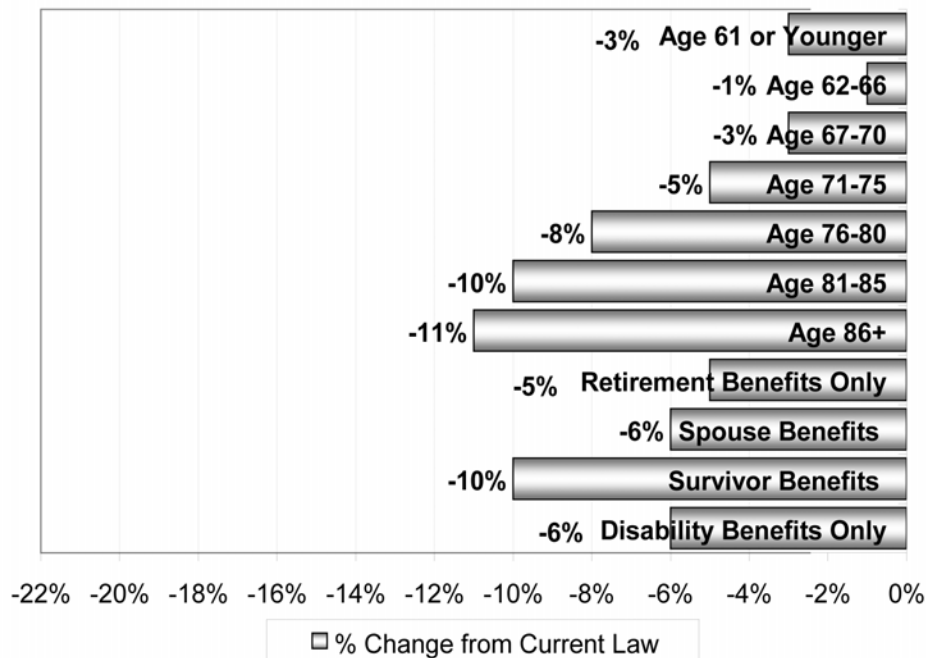
Among beneficiaries in 2035—22 years after the option to reduce the COLA by half a percentage point is assumed to be implemented—the median benefit reduction would be 6%.

The size of the benefit reduction under the COLA options increases the longer a beneficiary is eligible for benefits. Thus, the oldest beneficiaries have the greatest reductions compared with current law, as shown in **Figure 2**. For example, in 2035, beneficiaries between the ages of 62 and 66 are projected to have a median benefit cut of about 1% under the option to reduce the COLA by half a percentage point. Among the beneficiaries analyzed in this report, those under age 62 are almost all disability beneficiaries. In 2035, 96% of beneficiaries in this category are projected to receive disability benefits and 4% are projected to have taken up survivor benefits at age 60 or 61. In contrast, beneficiaries over age 85 are projected to have median benefit cuts of about 11%. Surviving spouses, who receive benefits longer, on average, than other beneficiaries, would receive the largest reductions of any benefit type under the option to reduce the COLA by half a percentage point. In 2035, survivor beneficiaries are estimated to have a median benefit reduction of about 10% compared with current law.

¹⁴ Women make up the substantial majority of survivor beneficiaries. (CRS Report RS22294, *Social Security Survivors Benefits*, by Kathleen Romig and Scott Szymendera.)

¹⁵ For example, in 2035, 57% of beneficiaries in the lowest income quintile are expected to be female (compared with 50% in the highest quintile) and 40% of beneficiaries in the lowest quintile are expected to receive disability or survivor benefits (compared with 22% in the highest quintile).

Figure 2. Median Percentage Change in Benefits Under COLA-0.5 Percentage Points compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



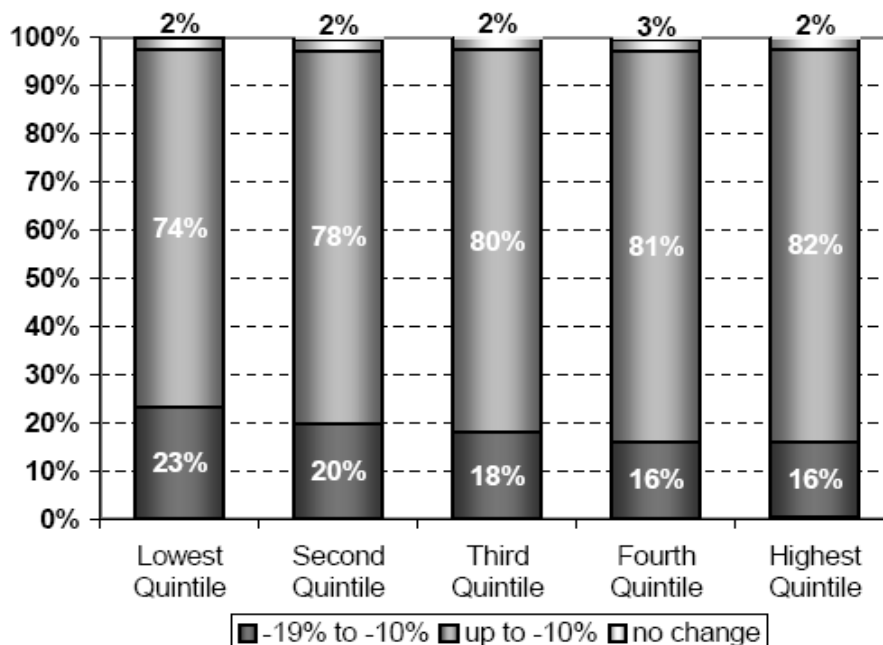
Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

The large majority of beneficiaries in all income quintiles would experience benefit reductions of up to 10% compared with current law under an option that reduced the COLA by half a percentage point. However, lower-income beneficiaries are more likely to have cuts in the range of 10% to 19% under the option, as shown in **Figure 3**. Thus, this proposal would be regressive in nature. About 23% of those in the lowest income quintile are estimated to have benefit cuts in the range of 10 to 19% in 2035, compared with about 16% of beneficiaries in the highest quintile. A small number of beneficiaries in each income group (roughly 2%) would experience no change in benefits.¹⁶

¹⁶ During the first year of benefit eligibility, no COLA is applied, so new beneficiaries would receive the same amount in benefits under the COLA options as under current law.

Figure 3. Percentage Change in Benefits Under COLA-0.5 Percentage Points compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Differences in the number of years of eligibility explain almost all of the variance between income groups. Low-income beneficiaries tend to have received benefits for longer periods of time. One reason for this discrepancy is that the lowest income quintile includes a disproportionate number of disability beneficiaries, who are eligible to receive benefits earlier than retired worker beneficiaries. Thus, under this proposal, low-income beneficiaries would have deeper benefit cuts than would high-income beneficiaries. For beneficiaries who have been eligible for benefits for at least 20 years, the benefit cut from a half percentage point reduction in the COLA would be expected to exceed 10%. About four-fifths of the beneficiaries with benefit reductions of 10% or more under this option have been eligible for benefits for at least 20 years, including a disproportionate share of the lowest income quintile.

After accounting for years of eligibility, a small number of beneficiaries in each quintile have larger-than-expected reductions under the policy option (for example, 4% of beneficiaries in the lowest quintile and 2% in the highest quintile). In the lowest quintile, the primary reason for larger-than-expected cuts is beneficiary type. The majority of the beneficiaries in this quintile whose reductions of 10% or more are unexplained by years of eligibility receive spouse or survivor benefits.¹⁷ Thus, their COLA amount is based on their *spouse's* years of eligibility, not their own. A disproportionate number of beneficiaries in the lowest income quintile receive spouse or survivor benefits. In the highest quintile, the primary reasons for larger-than-expected

¹⁷ For more information, see **Appendix B**.

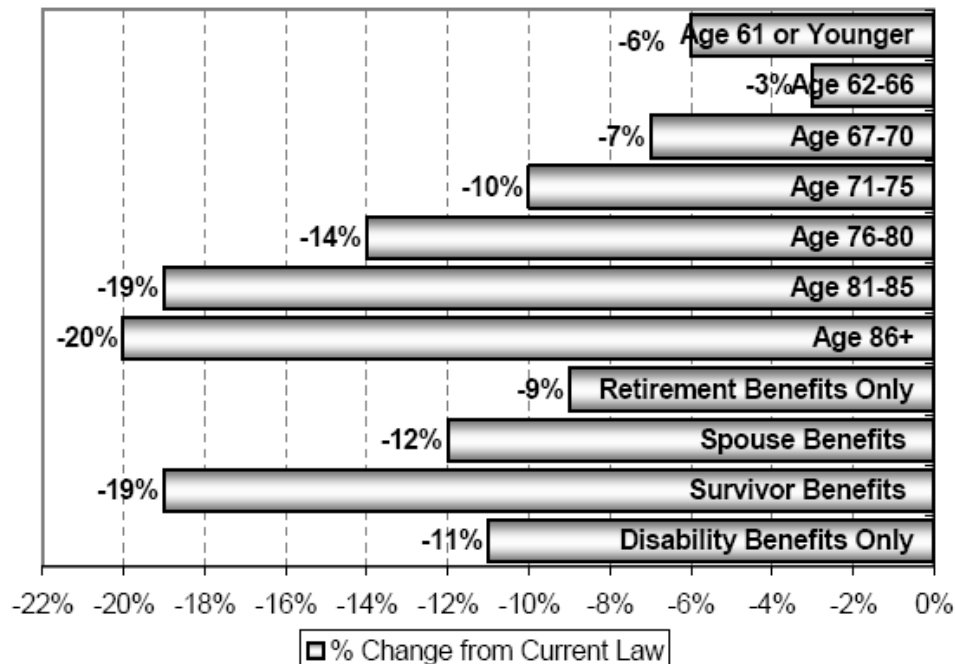
cuts are beneficiary type and the retirement earnings test (RET). The RET magnifies the effect of benefit cuts for beneficiaries who are younger than the full retirement age and continue to work.¹⁸

COLA Minus 1.0 Percentage Point

The distributional results for the second COLA option, which would reduce the annual COLA by one percentage point, are similar to those for the first COLA option. The primary difference between the two proposals is the size of the benefit reduction; the option to reduce the COLA by one percentage point would cut benefits by about twice as much as the option to reduce the COLA by half a percentage point. In 2035—22 years after the option to reduce the COLA by one percentage point is assumed to be implemented—the median benefit reduction would be about 11% compared with current law.

As in the first COLA option, the size of the benefit reduction increases the longer a beneficiary receives benefits. For example, as shown in **Figure 4**, in 2035, beneficiaries between age 62 and 66 are projected to have a median benefit reduction of about 3% under the option to reduce the COLA by one percentage point, compared with current law. In contrast, beneficiaries over age 85 are projected to have a benefit reduction of 20%. Survivor beneficiaries would receive the greatest reduction of any beneficiary type, about 19%.

Figure 4. Median Percentage Change in Benefits Under COLA-1.0 Percentage Point Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



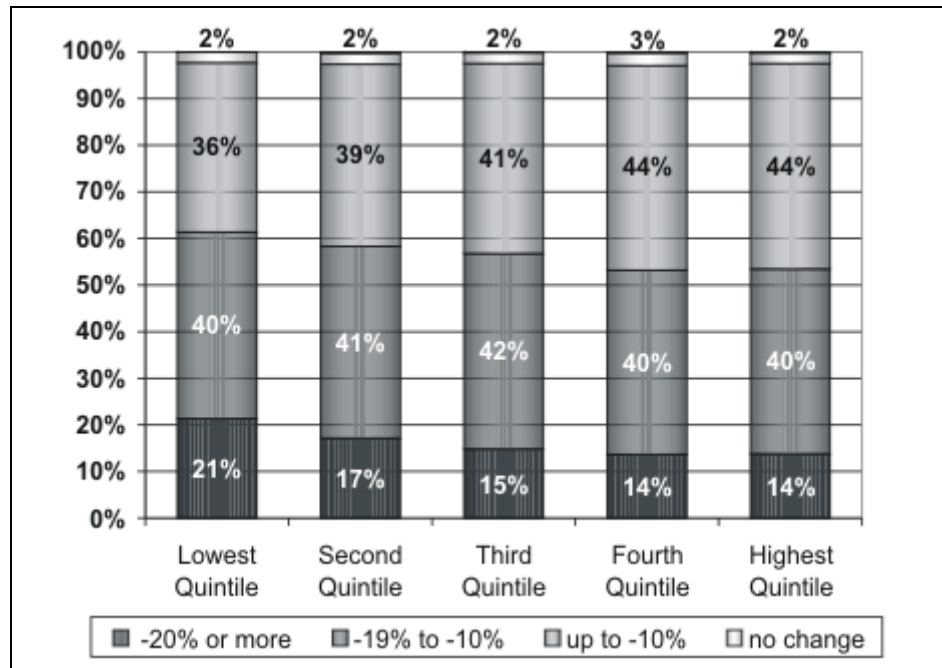
Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

¹⁸ For more information, see **Appendix C**.

As in the first COLA option, median benefit reductions under the option to reduce the COLA by one percentage point do not vary significantly by income group, but lower-income beneficiaries are more likely to have deeper benefit cuts because of their longer periods of eligibility. As shown in **Figure 5**, about 21% of those in the lowest income quintile are estimated to have benefit cuts of 20% or more in 2035, compared with about 14% of beneficiaries in the highest quintile. A small number of beneficiaries in each income group (roughly 2%) would experience no change in benefits.¹⁹

Figure 5. Percentage Change in Benefits Under COLA-1.0 Percentage Point Compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Legislation to Decrease the Annual COLA

The most recent Congressional bill to include a *fixed reduction* to the Social Security COLA was S. 1792, introduced by Senator Moynihan in the 105th Congress. This bill would have, among other things, reduced the COLA for Social Security benefits by one percentage point.

While no bill proposing a fixed reduction to the Social Security COLA has been introduced since the 105th Congress, the most recent bill which would reduce the COLA was H.R. 440, the Bipartisan Retirement Security Act of 2005, introduced by Representatives Kolbe and Boyd in the

¹⁹ During the first year of benefit eligibility, no COLA is applied, so new beneficiaries would receive the same amount in benefits under the COLA options as under current law.

109th Congress.²⁰ This bill would, among other things, reduce the COLA by using the chained CPI rather than the CPI-W to calculate the amount of the annual COLA.²¹ The Social Security actuaries estimate that using the chained CPI would reduce the COLA by about 0.22 percentage points per year, on average, compared with current law.²² H.R. 440 does not correspond directly to any of the options analyzed in this report.

While there is no recent legislation proposing a fixed reduction to the COLA, the Social Security actuaries have recently estimated the solvency effects of several proposals which would reduce the annual COLA, including a half percentage point reduction and a one percentage point reduction similar to those analyzed in this report.²³ In calculating the solvency effects of these options, the actuaries assume the reduced COLA would be applied to Social Security benefits in January 2007, which is six years earlier than the start date assumed for the COLA options in this report. Thus, the solvency effect of the COLA reduction proposals in this report could be somewhat smaller than the actuaries' estimates.²⁴

The actuaries' estimates were prepared using the assumptions of the 2005 Social Security Trustees Report, which estimated Social Security's long-range solvency gap as -1.92% of payroll and projected trust fund insolvency in 2041. According to the actuaries:

- *Reducing the COLA by 0.5 percentage point* would reduce Social Security expenditures by an estimated 0.76% of payroll, solving about 40% of the program's long-range funding gap and extending solvency for about nine years.
- *Reducing the COLA by 1.0 percentage point* would reduce Social Security expenditures by an estimated 1.49% of payroll, solving about 78% of the program's long-range funding gap and extending solvency for about 26 years.

²⁰ At the time of this report's publication, those bills most recently introduced that contained versions of these generic options were used to illustrate possible variations in each of the options analyzed, regardless of which Congress they represented. As the intent of this report is to highlight the effect of generic options, not particular bills, the report will not be updated to reflect subsequent legislation that may contain similar provisions.

²¹ For more information, see CRS Report RL32293, *The Chained Consumer Price Index: How Is It Different?*, by Brian W. Cashell.

²² According to the solvency estimate for H.R. 440 prepared by the Social Security actuaries, the intent of the bill was to reduce the COLA by 0.4 percentage points per year. For more information, see Social Security Administration memorandum to Representatives Jim Kolbe and Allen Boyd from Stephen C. Goss, Chief Actuary, Alice H. Wade, Deputy Chief Actuary, and Chris Chaplain, Actuary, "Estimated OASDI Financial Effects of the Bipartisan Retirement Security Act of 2005—Information," November 4, 2005, at http://www.ssa.gov/OACT/solvency/Kolbe_20051104.pdf.

²³ Social Security Administration memorandum to Stephen C. Goss, Chief Actuary from Chris Chaplain, Actuary, and Alice H. Wade, Deputy Chief Actuary, "Estimated OASDI Long-Range Financial Effects of Several Provisions Requested by the Social Security Advisory Board," August 10, 2005; <http://www.ssab.gov/documents/advisoryboardmemo—2005tr—08102005.pdf>.

²⁴ The Congressional Budget Office (CBO) estimates that most of the cost savings of a COLA reduction would occur during the first 25 years after a change. (Congressional Budget Office, *Budget Options, February 2005*, p. 234, at <http://www.cbo.gov/ftpdocs/60xx/doc6075/02-15-BudgetOptions.pdf>.)

Increase the Number of Computation Years (Earnings Years Used to Calculate Social Security Benefits)

Number of Computation Years Under Current Law

A worker's Social Security benefit is based on his or her average taxable earnings, adjusted for wage growth over time. In the formula for calculating Social Security retirement benefits, the highest 35 years of earnings are used as *computation years* in the Social Security benefit formula.²⁵ For disability and survivor benefits, the number of computation years depends on the age when the wage earner became disabled or died; for these workers, the number of computation years varies from 2 to 35.²⁶

Reasons Some Policymakers Propose An Increase in the Number of Computation Years

Social Security beneficiaries receive benefits for a longer period of time today than in the past. Current beneficiaries receive benefits sooner and live longer than did previous generations.²⁷ Increasing the number of years of work for the purpose of calculating Social Security benefits is intended to reward longer working careers and to provide an incentive for people to stay in the workforce longer—thus paying into the Social Security system for more years and collecting benefits for fewer years.²⁸

However, increasing the number of computation years would primarily affect retired worker and disability beneficiaries, not spouse and survivor beneficiaries. Since the total amount of spouse and survivor beneficiaries' benefits is based on their *spouses'* earnings histories, not their own earnings histories, changes to the number of computation years would affect their benefits only indirectly.²⁹ The length of their own careers would not affect the total amount of their benefits. Thus, increasing the number of computation years would not reward spouse and survivor beneficiaries for additional years worked.

²⁵ For more information on the Social Security benefit formula, see **Appendix A**.

²⁶ For disability benefits, the number of computation years equals the number of years of earnings between age 22 and the onset of disability, reduced by the disability dropout factor. The disability dropout factor is equal to the number of elapsed years after age 22 divided by five and rounded down the nearest whole number. For example, a person with 20 elapsed years would have a disability dropout factor of four and 16 total computation years. For survivors benefits, the number of computation years is equal to the number of years that have elapsed from the time the worker turned 22 until he or she died, reduced by five. For example, a worker who died at the age of 32 would have 10 elapsed years and five computation years.

²⁷ CRS Report 94-622, *Social Security: Raising the Retirement Age Background and Issues*, by Geoffrey C. Kollmann.

²⁸ The Dynasim model does not simulate changes in individuals' behavior due to policy changes.

²⁹ In 2035, about a quarter of all aged Social Security beneficiaries are projected to receive spouse or survivor benefits. For more information, see **Appendix B**.

Options to Increase the Number of Computation Years

This report examines a proposal to increase the number of computation years from 35 to 38 years.³⁰ The change would begin in 2013 and would affect only *new* beneficiaries who became eligible for benefits in 2013 or after, not beneficiaries who became eligible before 2013. Two versions of this option are analyzed:

- Increasing the number of computation years to 38 for all newly eligible beneficiaries, including disability beneficiaries; and
- Increasing the number of computation years to 38 for newly eligible retirement and survivor beneficiaries only (and holding disability beneficiaries harmless).

Variations on these options which would increase the number of computation years from 35 to 40 were also analyzed. These options yielded greater benefit reductions with nearly identical distributional effects. While the focus of the analysis below is the option to increase the number of computation years from 35 to 38, the results of the two options to increase the number of computation years to 40 will be discussed briefly. Full distributional results for the 40 computation year options are available in CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*.³¹

Distributional Effects in 2035

The addition of more computation years would generally reduce benefits by adding years with lower earnings or with no earnings into the Social Security benefit calculation. Some beneficiaries would not be affected by the change, since they (and, in some cases, their spouses) are projected to become eligible for benefits before 2013. The distributional analysis in 2035 shows that this group of beneficiaries is more likely to be older, to receive survivor benefits, and to have lower incomes than beneficiaries who become eligible for benefits in 2013 or later.

38 Computation Years for All Beneficiaries

In 2035—22 years after the option to increase the number of computation years to 38 for all newly eligible beneficiaries would be implemented—Social Security beneficiaries are projected to receive a median benefit cut of 2% compared with current law. For the option to increase the number of computation years to 40, beneficiaries are projected to receive a median reduction in benefits of 4% compared with current law.

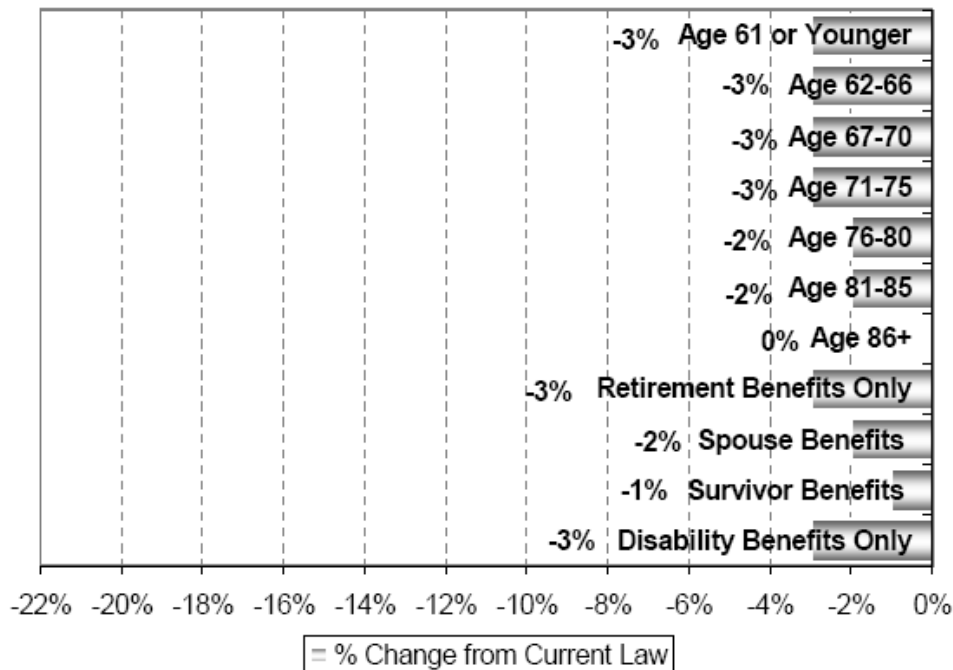
The effects of changing the number of computation years would vary depending on a beneficiary's age. In 2035, younger beneficiaries would have larger benefit cuts compared with older beneficiaries, since the new formula is assumed to apply only to people who become

³⁰ For disability and survivors benefits, the change in the number of computation years would be proportionate to the change for retired worker benefits. For example, in the proposal to increase the number of computation years from 35 to 38 for all beneficiaries, the number of computation years for disability and survivor beneficiaries would be calculated as their computation years under current law times 1.09 (that is, 38 divided by 35), then rounded to the nearest year.

³¹ See CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*, by Laura Haltzel et al.

eligible for Social Security benefits in 2013 or later. For example, beneficiaries between the ages of 62 and 66 would have a median benefit reduction of 3% relative to current law if the number of computation years was increased to 38 for all beneficiaries, as shown in **Figure 6**. This is because over 98% of beneficiaries in this age group would have been subject to the new formula.³² In contrast, beneficiaries over the age of 85 would have no median change, since 90% of these beneficiaries would not have been subject to the new formula because they became eligible for benefits before 2013.

Figure 6. Median Percentage Change in Benefits Under 38 Computation Years Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type (All Benefit Types Affected)



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

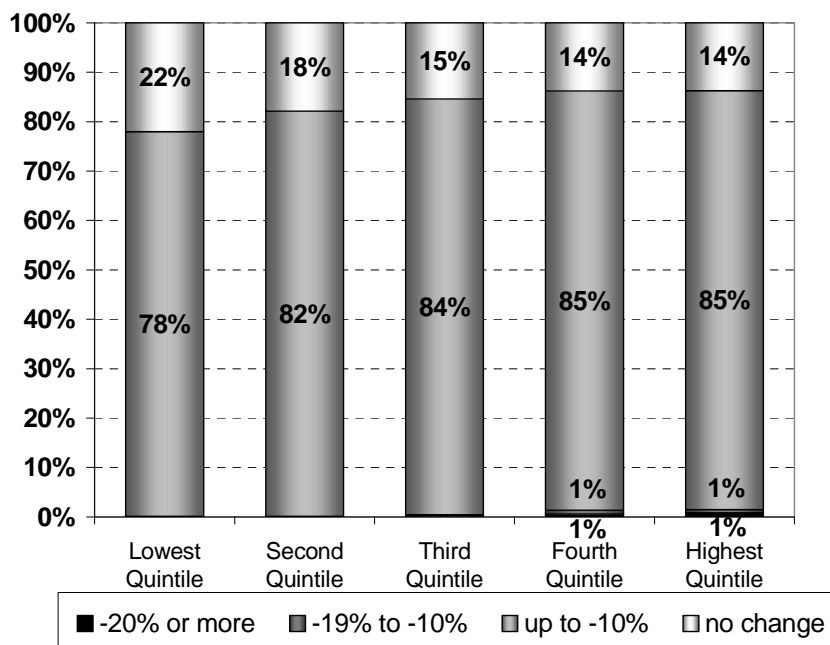
Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

The effects of changing the number of computation years would also vary depending on the type of benefits a person receives. One reason is that the proportion of beneficiaries who become eligible for benefits before 2013 varies significantly by benefit type. Thus, the proportion of beneficiaries subject to the new rules would also vary by benefit type. For example, as shown in **Figure 6**, survivor beneficiaries would have a median reduction of about 1% compared with current law, while retired worker beneficiaries would have a median reduction of about 3%. The primary reason for this difference is that fewer survivor beneficiaries would be subject to the new rules: about a third of survivor beneficiaries in 2035 are projected to become eligible for benefits before 2013 compared with fewer than 6% of retired worker beneficiaries. (Survivors are eligible for Social Security benefits at age 60, two years earlier than retired workers.) Among

³² The remaining 2% of beneficiaries between ages 62 and 66 who have no benefit reduction were disability beneficiaries who were eligible to receive benefits before 2013.

beneficiaries who become eligible for benefits in 2013 or later, spouse and survivor beneficiaries are also likely to experience smaller benefit reductions because of the current-law Social Security rules governing these types of benefits.³³ For example, some spouse and survivor beneficiaries receive benefits based on the earnings record of a spouse who became eligible for benefits before 2013, and thus would not be affected by the new formula.

Figure 7. Percentage Change in Benefits Under 38 Computation Years Compared with Current Law Among Beneficiaries in 2035 by Income Quintile (All Benefit Types Affected)



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

The effect of the changes in the number of computation years would vary by income group. As **Figure 7** shows, about 78% of beneficiaries in the lowest income quintile would receive a benefit cut under the option to increase the number of computation years to 38, and 22% would experience no change relative to current law. Among beneficiaries in the highest income quintile, a higher proportion of beneficiaries (87%) would receive a benefit cut under the option and a lower proportion (14%) would experience no change.

The variance by income group can be explained by the disproportionate number of beneficiaries in each quintile who become eligible for benefits before 2013, the year in which the proposal is assumed to begin. For example, more beneficiaries in the lowest income quintile were eligible to receive benefits before 2013 than in the highest income quintile (19% compared with 12%, respectively). One reason for this discrepancy is that the lowest income quintile includes a

³³ For more information, see **Appendix B**.

disproportionate number of disability beneficiaries, who are eligible to receive benefits earlier than retired worker beneficiaries.³⁴

Some individuals' benefits are not changed under the option even though they began to receive benefits in 2013 or later. The explanation for this result depends on the type of benefits received. Among beneficiaries who are projected to take up benefits in 2013 or later but whose benefits are unchanged by the proposal, 85% are spouse or survivor beneficiaries, 14% are disability beneficiaries, and the remaining 1% are retired worker beneficiaries. Spouse and survivor beneficiaries are less likely to be affected by any benefit reduction because their benefit amounts are based on the work records of their spouses, who may not be subject to the change, or may experience a change that is smaller than the spouse or survivor would have received based on his or her own work record.³⁵ Disability beneficiaries are less likely to be affected by changes in the number of computation years, because increases in the number of computation years are applied proportionately; under current law, many disability beneficiaries have a smaller number of computation years.³⁶ Finally, all of the retired worker beneficiaries who are unaffected by this proposal despite becoming eligible for benefits in 2013 or later were affected by the retirement earnings test (RET) early in their retirements, but in 2035 would be older than the full retirement age. These individuals' benefits are adjusted upward at the full retirement age and the adjustments tend to eliminate or mitigate the effects of benefit reductions.³⁷

Thirty-eight Computation Years for All But Disability Beneficiaries

The option to increase the number of computation years to 38 for all but disability beneficiaries would have the same impact as the other computation year option, except that disability beneficiaries (and, in some cases, their spouses and survivors) would not be subject to the change.³⁸ Under the option that would increase the number of computation years to 38 and hold disability beneficiaries harmless, beneficiaries in 2035 are projected to have a median benefit cut of 2% compared with current law. Under the option that would increase the number of computation years to 40 and hold disability beneficiaries harmless, beneficiaries in 2035 are projected to have a median benefit cut of 3% compared with current law.

³⁴ There are nearly three times as many disability beneficiaries in the lowest income quintile (28%) as in the highest income quintile (10%).

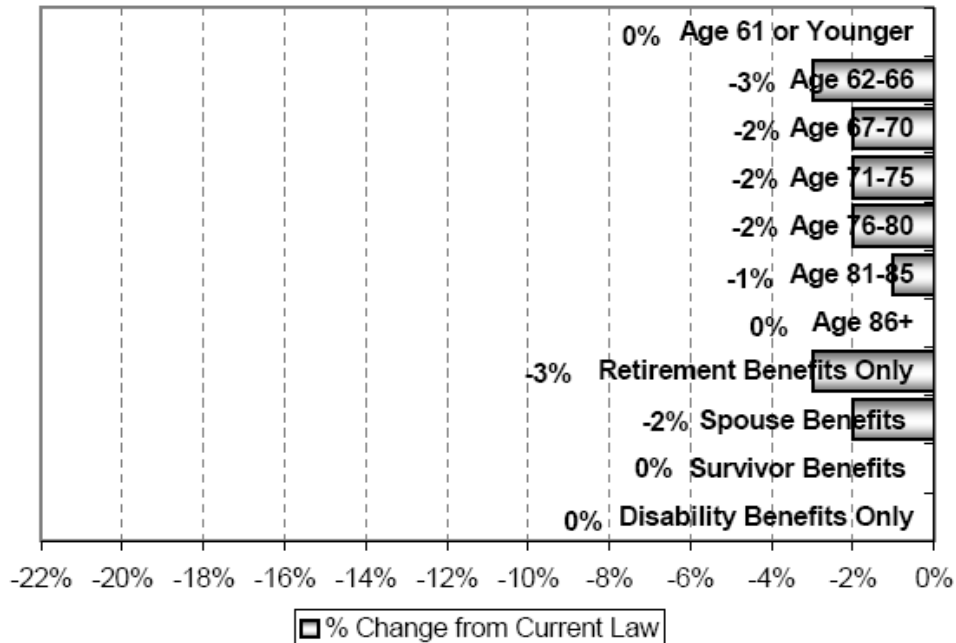
³⁵ For more information, see **Appendix B**.

³⁶ In other words, under the new formula, disability beneficiaries may have between zero and two additional computation years included in their benefit computation, compared with two years for all retired workers.

³⁷ For more information, see **Appendix C**.

³⁸ Other family members who receive benefits based on the record of a disabled individual's work, including the worker's children and parents, would also be held harmless. However, these beneficiaries are not analyzed in Dynasim.

Figure 8. Median Percentage Change in Benefits Under 38 Computation Years Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type (DI Beneficiaries Not Affected)



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

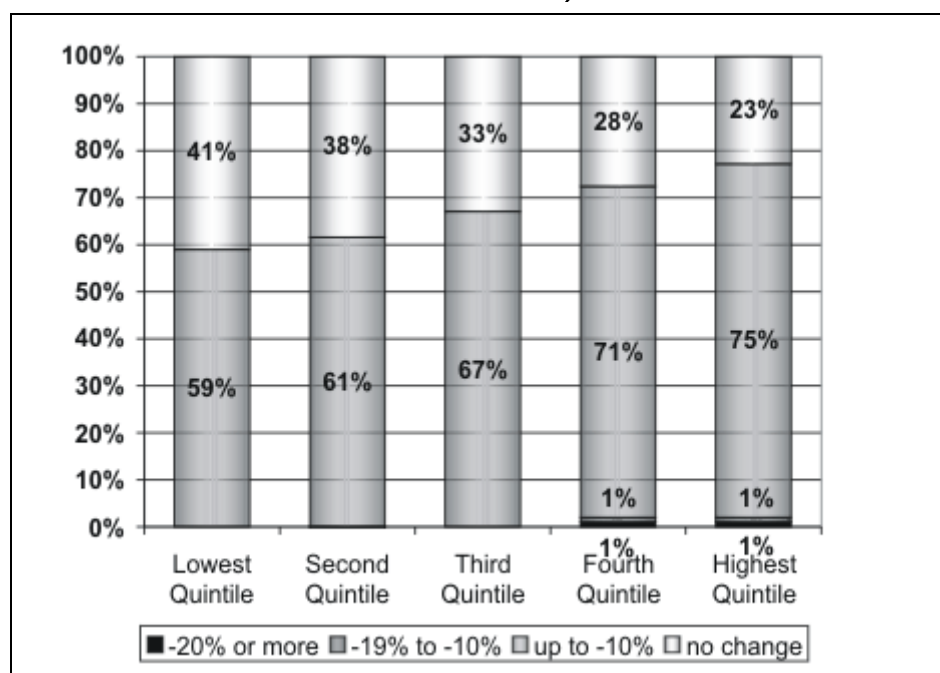
All age groups, except persons over the age of 85 or under the age of 62 would see a reduction in benefits under this proposal as shown in **Figure 8**. Persons aged 61 or younger would not see a benefit reduction because almost all of these younger beneficiaries receive disability benefits, which are not affected under the proposal.³⁹

For retired worker only beneficiaries, the median benefit reduction compared with current law under this option would be 3%, as shown in **Figure 8**. Disability beneficiaries' benefits would not be subject to reductions under this option. Spouse beneficiaries would receive a median benefit reduction of 2% under the hold harmless option and survivor beneficiaries would receive no reduction under the hold harmless option.⁴⁰

³⁹ Among the beneficiaries analyzed in this report, those under age 62 are almost all disability beneficiaries. In 2035, 96% of beneficiaries in this category are projected to receive disability benefits and 4% are projected to have taken up survivor benefits at age 60 or 61.

⁴⁰ In all, about 55% of survivor beneficiaries would see no change in benefits under the hold harmless option in 2035. Some of these beneficiaries receive benefits based on the record of a spouse who was disabled (and thus would have been held harmless under the option). Others began to receive benefits before 2013, when the new formula is assumed to take effect.

Figure 9. Percentage Change in Benefits Under 38 Computation Years Compared with Current Law Among Beneficiaries in 2035 by Income Quintile (DI Beneficiaries Not Affected)



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Because a disproportionate number of DI beneficiaries have low incomes, the contrast between the highest and lowest income quintiles is pronounced for this option that would hold DI beneficiaries harmless. As **Figure 9** shows, about 59% of beneficiaries in the lowest income quintile are affected by the option to increase the computation years for all but DI beneficiaries, compared with 77% in the highest income quintile.

Legislation to Increase the Number of Computation Years

A bill to increase the number of computation years for Social Security benefits, H.R. 3315, was introduced in 2001 by Representative DeFazio. This bill would have, among other things, gradually phased in an increase in the number of computation years from 35 to 38. In the 109th Congress, Representatives Kolbe and Boyd introduced H.R. 440, which would, among other things, increase the number of computation years to 40 for most beneficiaries. Because the mechanics of how this provision would be implemented in H.R. 440 are very different from the approach analyzed in this report, the solvency estimate for that provision is not included here.⁴¹

⁴¹ The increase in the number of computation years would be gradually phased in and, for married couples, would apply only to the higher-earning spouse. For more information, see Social Security Administration memorandum to Representatives Jim Kolbe and Allen Boyd from Stephen C. Goss, Chief Actuary, Alice H. Wade, Deputy Chief Actuary, and Chris Chaplain, Actuary, "Estimated OASDI Financial Effects of the Bipartisan Retirement Security Act of 2005—Information," November 4, 2005, at http://www.ssa.gov/OACT/solvency/Kolbe_20051104.pdf.

In response to a request from the Social Security Advisory Board, the Social Security actuaries estimated the solvency effects of increasing the number of computation years for retirees and survivors, but did not prepare any estimates for an increase in computation years which affects disability beneficiaries. The actuaries' estimates for the proposal to increase the number of computation years from 35 to 38 assumes the proposal is phased in from 2006 to 2010, and the proposal to increase the number of computation years from 35 to 40 is phased in from 2006 to 2014. The options in this report are assumed to begin in 2013 with no phase-in.

The actuaries' estimates for the Advisory Board were prepared using the 2005 Social Security Trustees Report, which estimated the long-range solvency gap as 1.92% of payroll and projected trust fund insolvency in 2041.⁴² According to the actuaries:

- Increasing the number of computation years for retirement and survivor beneficiaries from 35 to 38 would reduce Social Security expenditures by an estimated 0.28% of payroll, solving about 15% of the program's long-range funding gap and extending solvency for about two years.
- Increasing the number of computation years for retirement and survivor beneficiaries from 35 to 40 would reduce Social Security expenditures by an estimated 0.46% of payroll, solving about 24% of the program's long-range funding gap and extending solvency for about four years.

Increase the Full Retirement Age (FRA)

FRA Under Current Law

The Social Security full retirement age (also referred to as the normal retirement age) is the age at which individuals may begin receiving full (or unreduced) retirement benefits.⁴³ Retired workers and spouses are treated differently under FRA rules than are survivors.

FRA for Workers and Spouses Under Current Law⁴⁴

The full retirement age (FRA) for workers and spouses is increasing gradually from age 65 to age 67 over a 22-year period that began in January 2000.⁴⁵ Specifically, the FRA will increase from age 65 to age 66 in two-month increments for individuals born in 1938 through 1943. The FRA will remain age 66 for individuals born in 1944 through 1954. It will increase again from age 66

⁴² Social Security Administration memorandum to Stephen C. Goss, Chief Actuary from Chris Chaplain, Actuary, and Alice H. Wade, Deputy Chief Actuary, "Estimated OASDI Long-Range Financial Effects of a Several Provisions Requested by the Social Security Advisory Board," August 10, 2005, at <http://www.ssab.gov/documents/advisoryboardmemo—2005tr—08102005.pdf>.

⁴³ The full retirement age is the age at which retirement benefits are equal to the worker's primary insurance amount. For more information on the computation of the primary insurance amount under current law, please refer to **Appendix A**.

⁴⁴ Disabled workers receive Disability Insurance (DI) benefits until they reach the FRA, and so are held-harmless from any increase in the FRA.

⁴⁵ The increase in the FRA scheduled under current law was enacted as part of the Social Security Amendments of 1983 (P.L. 98-21).

to age 67 in two-month increments for individuals born in 1955 through 1960. The FRA will remain age 67 for individuals born after 1960.

For example, workers born in 1945 would have an FRA of age 66. They would therefore be eligible for full Social Security retirement benefits in 2011.⁴⁶

Under current law, workers and their spouses may choose to receive reduced retirement benefits as early as age 62. This reduction is designed to provide beneficiaries with equal benefits, on average, over their lifetime regardless of the age at which they elect to receive benefits. Although the FRA is increasing under current law, the earliest eligibility age will remain age 62. The maximum reduction for workers who elect to receive benefits at age 62 ranges from 20% (based on an FRA of 65) to 30% (based on an FRA of 67).⁴⁷ The reduction for spouses is slightly higher than that for retired workers.

Continuing the example above, workers born in 1945 would reach age 62 in 2007. These workers would be eligible for early (or reduced) retirement benefits beginning in 2007 (assuming all other eligibility requirements are met). If they opted to begin benefits at that time, their Social Security benefits would be permanently reduced by 25%.

FRA for Survivors Under Current Law

Under current law, aged survivors may begin receiving benefits as early as age 60 (two years earlier than retired workers and spouses). If disabled, aged survivors may begin receiving benefits as early as age 50. As such, the scheduled increase in the FRA under current law affects survivors born in 1940 or later (rather than 1938 or later as for retired workers and spouses).⁴⁸

The maximum reduction in survivor benefits for early retirement remains 28.5% as the FRA increases from age 65 to age 67, with a proportionate monthly reduction based on the number of months between age 60 and the FRA.⁴⁹

Reasons Some Policymakers Propose an Increase in the FRA

Life expectancy has increased and is projected to continue to increase for future generations. For example, the Social Security Administration's actuaries estimate that, in 1950, a 65-year-old male had a remaining life expectancy of approximately 13 years. By comparison, in 2000, a 65-year-old male had a remaining life expectancy of 16 years.⁵⁰ The pattern is similar for females. The actuaries estimate that a 65-year-old female in 1950 had a remaining life expectancy of 15 years, compared with 19 years for a 65-year-old female in 2000. Projected increases in life expectancy

⁴⁶ For more information, see the SSA website at <http://www.ssa.gov/retirechartred.htm>.

⁴⁷ For more information, see the SSA website at <http://www.ssa.gov/retirechartred.htm>.

⁴⁸ For more information, see the SSA website at <http://www.ssa.gov/survivorchartred.htm>.

⁴⁹ There is no additional reduction for receipt of disabled widow(er) benefits before age 60. The monthly reduction in survivor benefits for early retirement would be equal to 28.5% divided by the total number of months from age 60 to the FRA. For example, the monthly reduction in survivor benefits for an individual with an FRA of 67 would be 0.339% [$.285 / 84 \text{ months} = 0.00339$]. For more information, see the Social Security Administration website at <http://www.ssa.gov/survivorchartred.htm>.

⁵⁰ Bell, Felicitie C. And Michael L. Miller (2005). *Life Tables for the United States Social Security Area 1900-2100*. Social Security Administration, Office of the Chief Actuary. Actuarial Study No. 120, Table 6.

suggest to some policymakers that individuals could spend more years in the labor force (rather than in retirement), thereby reducing the financial strain on the Social Security system.⁵¹

An increase in the FRA could reduce financial strain on the system in two ways; through reduced benefit payments and through increased revenues. First, cost savings for the system would result from larger benefit reductions for individuals who choose to retire early, or from individuals who opt to wait until the higher FRA to retire. In 2002, 71% of workers who became entitled to retirement benefits received reduced benefits because of entitlement before the FRA. In that year, 56% of workers elected retirement benefits at the earliest eligibility age (age 62). If a majority of workers continue to elect early retirement (for a variety of reasons that may include poor health, a physically demanding occupation, preference for leisure, etc.), an increase in the FRA would result in cost savings for the Social Security system. Alternatively, individuals may delay their take-up of benefits to avoid the higher reduction for early retirement. In this case, the Social Security system saves money because it pays out benefits to these individuals for fewer months.

Second, an increase in tax revenue for the system would result from additional payroll tax contributions by individuals who choose to remain in the labor force for a longer period. The extended period of covered employment by workers would generate additional payroll tax revenue for the system, while the additional earnings could result in a higher benefit for these workers.⁵²

The Social Security Administration projects that an increase in the FRA would have a net positive effect on the system's financial outlook. They estimate that savings due to larger benefit reductions for early retirement and/or increased payroll tax revenue associated with extended periods of covered employment would outweigh any increase in benefit payments due to the additional covered earnings or the potential increase in the number of older workers who would become entitled to unreduced disability benefits.⁵³

Option to Increase the FRA

The FRA option examined in this report would accelerate the increase from age 66 to age 67 scheduled under current law and would further increase the FRA from age 67 to age 70. Specifically, for retired workers and spouses, the FRA would increase from age 65 to age 66 in two-month increments for individuals born in 1938 through 1943 (as under current law). It would remain age 66 for individuals born in 1944 through 1950 (compared with 1944 through 1954 under current law). The FRA would increase again from age 66 to age 67 in two-month increments for individuals born in 1951 through 1956 (the FRA would reach age 67 for persons born in 1956—four years earlier than under current law). For individuals born in 1957 or later, the FRA would continue to increase one month every two years until the FRA reaches age 70 for

⁵¹ Although life expectancy is projected to increase, some individuals may not be able to extend their working lives due to a variety of factors that include, but are not limited to, health problems, physically-demanding occupations and various aspects of the labor market (such as forced retirement and labor supply issues with respect to older workers). For additional information on older workers and labor supply issues, please see CRS Report RL32757, *Unemployment and Older Workers*, by Julie M. Whittaker.

⁵² The Dynasim model does not assume any changes in behavior due to a policy change. Thus, for the analysis that follows, all individuals are assumed to apply for Social Security benefits at the same age under the option as they did under current law.

⁵³ An increase in the FRA and the larger benefit reduction could create the incentive for individuals to apply for Social Security disability benefits because disability benefits would be unaffected by the FRA change.

individuals born in 2027 or later. The increase in the FRA for survivors under the option would be the same as that for retired workers and spouses, although the phase-in would begin for individuals born in 1940 (rather than 1938). The FRA would reach age 70 for survivors born in 2029 or later. In this illustration, beneficiaries born in 1951 or later who retire early would face benefit reductions under this option.

Under this option (consistent with current law), individuals who receive disability benefits would not be directly affected by an increase in the FRA. They would not be subject to reductions under the FRA option because disability benefits are converted to retired-worker benefits when the individual reaches the FRA. Thus an increase in the FRA and the benefit reductions associated with early retirement do not directly affect disability beneficiaries because they do not receive early retirement reductions.

For survivors, the maximum reduction would remain 28.5% for someone taking benefits at age 60, with a proportionate monthly reduction based on the number of months between age 60 and the FRA. Thus, for each month of early retirement, the size of the reduction per month is smaller under the FRA option than under current law. For example, under the FRA option, a survivor born in 1958 would be subject to an FRA of 67 (compared with 66 and four months under current law). The benefit reduction for each month of entitlement before the FRA would be .339% ($.285/84$ months = .00339) compared with .375% under current law. Therefore, because the per month reduction is .036% per month smaller than under current law, this survivor beneficiary would actually experience a very slight benefit increase under the FRA option relative to current law.

The early retirement reduction for retired workers and spouses would increase to reflect the increase in the FRA. For example, for an individual with an FRA of 67 and one month (i.e., an individual born in 1957), the total reduction in *retired-worker* benefits would be 30.4% (compared with 27.5% under current law) for an individual who elects to receive benefits at age 62. The total reduction in *spousal* benefits for this individual at age 62 would be 35.4% (compared with 32.5% under current law).

Distributional Effects in 2035

The effects of an increase in the FRA vary by age, benefit type and income quintile.

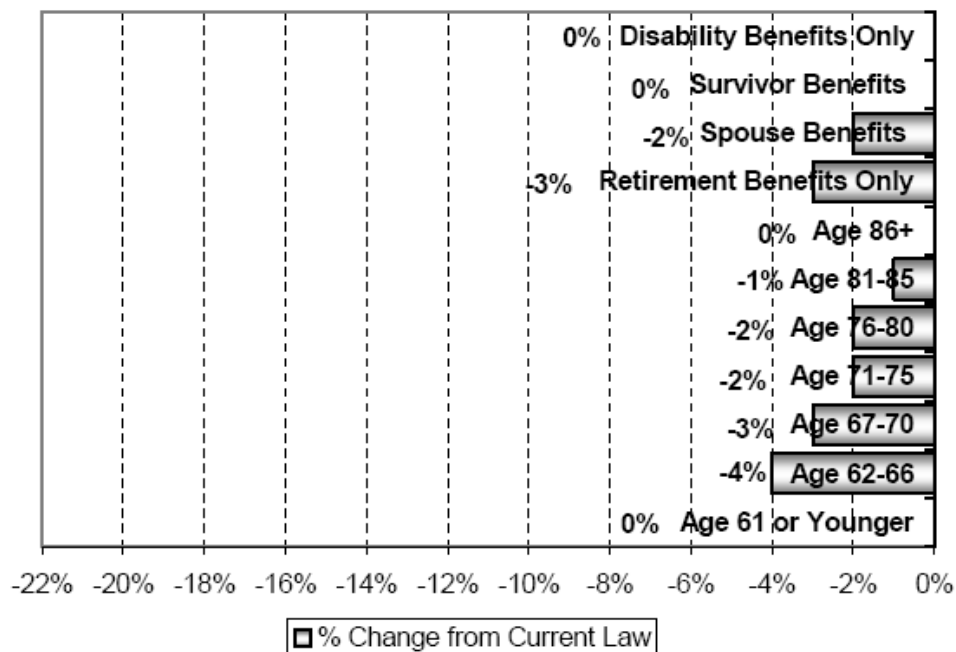
- Generally, the younger the cohort, the greater the reduction in benefits under the FRA option compared with current law. This finding is consistent with the design of the option in which the FRA (and, therefore, the level of benefit reduction associated with early retirement) would increase gradually over time for individuals born in 1951 or later.
- The results show that disability and survivor beneficiaries would receive a median benefit reduction of 0% compared with current law. Because disability beneficiaries are not affected by changes in the FRA under current law, they are held harmless under this option. In addition, because the FRA option maintains the maximum benefit reduction for survivor benefits, most survivor beneficiaries are also held harmless.
- Spouse and retired-worker beneficiaries would receive median reductions of 2% and 3%, respectively.⁵⁴ The slightly greater reduction for retired-worker beneficiaries is attributed to their younger ages.

⁵⁴ The median represents beneficiaries at the middle of the distribution (i.e., half of the beneficiary population in 2035 (continued...))

- The results show that a majority of the beneficiary population in each income quintile would receive a benefit reduction of 10% or less. In addition, a small percentage of beneficiaries would receive an *increase* in benefits due to the interaction of the FRA option with the Social Security Retirement Earnings Test.

Figure 10 shows the median percentage change in benefits under the FRA option compared with current law among beneficiaries in 2035 by age and benefit type. The results show that the younger the cohort, the greater the reduction in benefits under the FRA option compared with current law. This finding is consistent with the design of the option. As the FRA gradually increases for each new cohort of beneficiaries, the reduction for early retirement will also gradually increase.⁵⁵ Thus, the benefit reductions in the year 2035 are smaller than the reductions in later years. A particular individual's level of benefit reduction for retirement before the FRA would depend on his/her year of birth (which determines the applicable FRA) and the age at which he/she elected to receive benefits.

Figure 10. Median Percentage Change in Benefits Under Full Retirement Age Increase Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

(...continued)

would experience larger benefit reductions and half of the beneficiary population in 2035 would experience smaller or no benefit reductions).

⁵⁵ Under the FRA option examined in this report, the FRA would reach age 70 for individuals born in 2027 or later. For these individuals, the maximum reduction in retired-worker benefits taken at age 62 would be 43% (compared with 30% under current law).

As shown in the figure, individuals aged 86 and older would not be affected by the FRA option. Those aged 86 and older would have been eligible for benefits before the FRA option is assumed to take effect in 2013.⁵⁶ Individuals aged 81-85 would receive a median benefit reduction of 1%, compared with a median reduction of 2% for those aged 71-80 and a median reduction of 4% for those aged 62-66. The youngest category of beneficiaries (aged 61 or younger) would have a median change of 0% because 96% of individuals in this category are disability beneficiaries who would not be directly affected by an increase in the FRA (see discussion below).

Figure 10 also shows a breakdown by benefit type. As illustrated, individuals receiving disability benefits would receive no change in benefits compared with current law. Because disability benefits are converted to retired-worker benefits when the individual reaches the FRA, an increase in the FRA and the benefit reductions associated with early retirement do not directly affect disability beneficiaries. In other words, disability beneficiaries are held harmless under the FRA option.

The figure shows that the median benefit change for survivor beneficiaries under the FRA increase would be 0% compared with current law. The vast majority of survivor beneficiaries experience no change in benefits. This result is expected because the maximum reduction for survivor benefits taken before the FRA is the same under current law and the option (28.5%). Some survivor beneficiaries may experience slight benefit increases under the FRA option. Since the 28.5% maximum reduction is divided over a greater number of months under the FRA increase, the per month penalty for early retirement is smaller under the FRA increase than under current law. Therefore, survivor beneficiaries who took benefits any time after age 60 could have experienced a very slight benefit increase under the option. On the other hand, some survivor beneficiaries that were not affected by the early retirement reduction under current law could receive benefit reductions under the option to increase the FRA. For example, a survivor who applied for benefits at age 67 under current law would have been retiring at or above the FRA and would have experienced no benefit reduction. However, under the FRA increase to age 70, this survivor would now be taking benefits earlier than the new FRA and would be subject to an early retirement penalty.

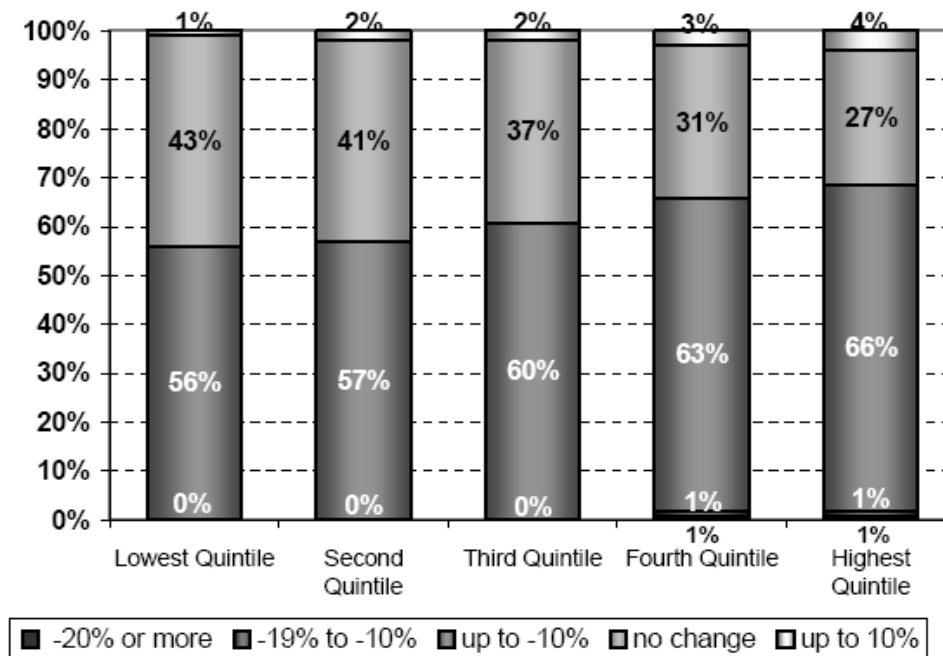
The results also show that individuals receiving spousal benefits and retired-worker benefits would receive median reductions of 2% and 3%, respectively, compared with current law. Spouses would receive a slightly smaller reduction in benefits than retired-workers because spouses tend to be slightly older and thus have a lower FRA. For example, spouses have a median FRA of 67 and 3 months. By comparison, retired-workers have a median FRA of 67 and 4 months. The lower median FRA for the spouses results in smaller reductions than those for retired-workers.

Figure 11 shows the percentage change in benefits under the FRA option compared with current law among beneficiaries in 2035 by income quintile. The results show that median benefit reductions do not differ significantly by income group. A majority of the beneficiary population in each income quintile would receive a benefit reduction of up to 10%.

⁵⁶ Because the option is assumed to take effect in 2013, there would be no change in benefits for individuals born in 1950 or earlier. The first cohort affected under the option would be workers born in 1951 who would become eligible for retirement benefits at age 62 in 2013.

In general, the slow phase-in of the FRA increase would not result in large benefit reductions by 2035. The percentage of beneficiaries in each income quintile who would receive no change in benefits ranges from 27% in the highest income quintile to 43% in the lowest income quintile. In the lowest income quintile, of the 43% of beneficiaries who would receive no change in benefits, 65% are disability beneficiaries, who would not be affected by the FRA increase, as previously mentioned. The remainder of those in the lowest income quintile who would receive no change in benefits are age 86 and older and, thus, would not be affected by the FRA increase.

Figure 11. Percentage Change in Benefits Under Full Retirement Age Increase Compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Fewer beneficiaries in the highest income quintile (27%) would receive no change in benefits than in the lowest income quintile because there are fewer disabled beneficiaries and fewer older beneficiaries than in the lowest income quintile. The majority of beneficiaries in the highest income quintile who would receive no change in benefits are disability beneficiaries or are age 86 and older and so are not affected by the FRA option.

The results show that a larger percentage of beneficiaries in the higher income groups would be subject to benefit reductions under the FRA option compared with those in the lower income quintiles. For example, the percentage of individuals who would receive a reduction of up to 10% ranges from 56% in the lowest income quintile to 66% in the highest income quintile. The larger percentage of beneficiaries who would receive up to a 10% benefit reduction in the highest income category is attributed to the different share of beneficiaries in each quintile affected by the

Social Security Retirement Earnings Test (RET).⁵⁷ An increase in the FRA could increase the number of months for which an individual is subject to the RET. Because the RET no longer applies after the FRA, pushing back the FRA could cause individuals to experience additional months of benefit reductions under the option. While 8% of beneficiaries in the highest income quintile with benefit reductions of up to 10% are affected by the RET, none of the beneficiaries in the lowest income quintile with this size benefit reduction are. Although the share of beneficiaries affected by the RET differs, the share of beneficiaries by other characteristics, such as age and benefit type, does not differ significantly between the lowest income quintile and the highest income quintile (among beneficiaries who would receive a benefit reduction of up to 10%).

A slightly larger percentage of beneficiaries in the higher income quintiles would receive an *increase* in benefit levels under the FRA option compared with those in the lower income quintiles. For example, the percentage of individuals who would receive a benefit *increase* of up to 10% ranges from 1% in the lowest income quintile to 4% in the highest income quintile. This result is attributed to a larger percentage of individuals in the highest income quintile who have benefits reduced by the RET prior to the FRA and who have reached the FRA by 2035. If an individual's benefits are withheld as a result of the RET, benefits are re-computed when he/she reaches the FRA to take into account months for which benefits were withheld (i.e., reductions for early retirement would not apply for those months). If an individual's benefits are withheld for additional months due to the increase in the FRA mentioned in the previous paragraph, the re-computation of benefits at the FRA could ultimately result in a higher benefit compared with current law (i.e., the re-computation would take into account additional months for which early retirement reductions would not apply). The share of beneficiaries in the highest income quintile who are affected by the RET and are above the FRA (in 2035) is 4 percentage points higher compared with the lowest income quintile. Thus, a greater percentage of individuals in the highest income quintile experience an increase in benefits under the FRA option.

Legislation Related to Changes in the FRA

In the 109th Congress, H.R. 440, introduced by Representatives Kolbe and Boyd, would have accelerated the increase in the FRA from age 65 to 67 scheduled under current law, so that the FRA would have reached age 67 for individuals born in 1956 or later (four years earlier than under current law). The Social Security Administration's actuaries estimate that this provision would have eliminated an estimated 3% of the program's long-range funding shortfall projected under current law (based on the intermediate assumptions of the 2004 Trustees Report).⁵⁸

S. 540, introduced by Senator Hagel, would have raised the FRA from age 67 to 68 for individuals born in 1961 or later. The cost estimate for S. 540 prepared by the Social Security Administration's actuaries does not include the estimated trust fund solvency effect of this provision on its own.⁵⁹

⁵⁷ The RET reduces the level of benefits for beneficiaries who are younger than the FRA and have earnings above a specified amount. Under the RET, all or part of an individual's benefits may be withheld for a particular month if earnings exceed a specified amount. For more information on the interaction between the RET and policy changes, please refer to **Appendix C**.

⁵⁸ Social Security Administration, Office of the Chief Actuary, *Estimated OASDI Financial Effects of the "Bipartisan Retirement Security Act of 2005,"* November 4, 2005, available at <http://www.ssa.gov/OACT/solvency/index.html>.

⁵⁹ Social Security Administration, Office of the Chief Actuary, *Estimated Financial Effects of "The Saving Social Security Act of 2005,"* March 10, 2005, at <http://www.ssa.gov/OACT/solvency/index.html>.

S. 2427, introduced by Senator Bennett, would have accelerated the increase in the FRA from age 65 to 67 scheduled under current law, so that the FRA would have reached age 67 for individuals born in 1955 or later (five years earlier than under current law). The cost estimate for S. 2427 prepared by the Social Security Administration's actuaries does not include the estimated trust fund solvency effect of this provision on its own.⁶⁰

The actuaries at the Social Security Administration have calculated the impact on the solvency of the Social Security trust funds of an option to increase the FRA similar to the one analyzed in this report.⁶¹ Under the intermediate assumptions of the 2005 Trustees Report, the actuaries estimate that eliminating the 10-year hiatus in the FRA increase from age 66 to age 67, and further increasing the FRA by one month every two years until the FRA reaches age 70, would eliminate about 36% of the program's long-range funding shortfall projected under current law and extend the projected trust fund exhaustion date from 2041 to 2047.⁶²

Longevity Indexing: Reduce Initial Social Security Benefits Based on Increases in Life Expectancy

Current Law

Life expectancy is rising faster than the Social Security full retirement age (FRA).⁶³ From the start of the Social Security program in 1935 through the year 2000, life expectancy (longevity)⁶⁴ at age 65 increased by about five years while the Social Security FRA remained constant at age 65. In the year 2000, the FRA began gradually increasing from age 65 to age 67. This increase was enacted in 1983 as part of a series of amendments to improve the solvency of the Social Security system. When the FRA ultimately reaches age 67, life expectancy at age 65 will have increased since 1935 by 5.5 and 6 years for men and women, respectively. Thus, despite the currently-scheduled two-year increase in the FRA, an individual retiring at the FRA under current

⁶⁰ Social Security Administration, Office of the Chief Actuary, *Estimated Financial Effects of a Proposal to Restore Sustainable Solvency for the Social Security Program*, March 16, 2006, available at <http://www.ssa.gov/OACT/solvency/index.html>.

⁶¹ Note that the estimate prepared by the actuaries assumes that the 10-year period in which the FRA would remain age 66 under current law would be eliminated, not shortened as assumed in this report (i.e., the actuaries assume that the FRA would increase from age 66 to age 67 at a faster rate). In addition, there may be other differences in the specifications for the FRA option analyzed by the actuaries and the FRA option examined in this report.

⁶² Social Security Administration, *Estimated OASDI Long-Range Financial Effects of Several Provisions Requested by the Social Security Advisory Board*, Memorandum, dated August 10, 2005, available at <http://www.ssab.gov/documents/advisoryboardmemo—2005tr—08102005.pdf>.

⁶³ The full retirement age is the earliest age at which a worker can receive unreduced Social Security benefits.

⁶⁴ Life expectancy, or longevity, is defined as the average remaining number of years expected prior to death. Life expectancy varies both within a birth cohort (as one ages their life expectancy changes) and across birth cohorts (historically, earlier cohorts had lower life expectancies than current cohorts). Some statistics report life expectancy across cohorts from birth. However, not all of the individuals that are measured for this statistic survive to working age, and even fewer survive until retirement age. Thus, for the purpose of Social Security benefit estimates, the most useful statistic is a cohort's life expectancy at age 65, contingent on having reached age 65. Furthermore, life expectancy varies along socio-economic lines, such as gender, with women generally having longer life expectancies at 65 than men. The longevity-indexing options presented in this report were developed based on unisex life expectancies projected by the Social Security Administration's Office of the Chief Actuary.

law would still receive benefits, on average, for at least 3.5 years longer than an individual retiring at the FRA in 1940.

No provision in current law would increase the FRA to compensate for increased longevity and longer years of benefit receipt. Although supported by numerous Greenspan Commission members as part of the 1983 Amendments⁶⁵, there are no provisions in current law to continue increasing the FRA as life expectancy increases. Nor are there any other current-law provisions that would adjust benefits to reflect increases in life expectancy.

Reasons Some Policymakers Propose Longevity Indexing

Because the FRA has not been adjusted to account for increasing longevity, people retiring today at the FRA are receiving benefits for a longer period of time than those retiring at the FRA when the system was designed, contributing to the financial strain on the Social Security system. There are two possible approaches to reducing the financial strain caused by increasing longevity: (1) Raise the FRA in line with gains in life expectancy to reduce the number of years that an individual receives the same monthly benefit amount under current law; or (2) Reduce the Social Security monthly benefit amount payable at the full retirement age based on increases in life expectancy. When provided with various options for achieving long-term solvency, increasing the FRA is consistently unpopular with Americans.⁶⁶ As a result, some policymakers have suggested other approaches that would achieve the same solvency effect. Reducing Social Security benefits based on increases in life expectancy (i.e., longevity-indexing) would reduce Social Security expenditures and help restore solvency. Longevity indexing Social Security benefits seeks to roughly offset the demographic changes in longevity that increase program costs.

Despite the average increases in life expectancy over the past 70 years, it is important to keep in mind that future longevity gains are not guaranteed. For example, while life expectancy could continue to rise with technological and medical advancements, it could also decline with increases in obesity and related diseases. In fact, demography experts disagree both on the magnitude and the direction of future trends in life expectancy.⁶⁷ Furthermore, while average life expectancy has been increasing, these gains in life expectancy may not be shared equally across the population. For example, life expectancy gains at age 65 have been higher for women than for men and higher for whites than for blacks. Between 1950 and 2000, women gained 4.3 years and men gained 3.5 years.⁶⁸ Over this same period, white males gained 3.5 years while black males gained 1.6 years, and white females gained 4.1 years while black females gained 2.5 years.⁶⁹

⁶⁵ See the “Supplementary Statement on Meeting the Long-Range Financing Requirements by Commissioners Archer, Beck, Conable, Dole, Fuller, Greenspan, Heinz, and Trowbridge,” the “Views of Senator William L. Armstrong,” “Supplementary Statement by Mary Falvey Fuller,” and “Dissenting Views of Joe D. Waggoner, Jr.,” within the “Report of the National Commission on Social Security Reform,” January 1983, available at <http://www.ssa.gov/history/reports/gspan.html>.

⁶⁶ For example, see the public opinion polls conducted by *CBS News* and the *New York Times* on June 10-15, 2005, by *NBC News* and the *Wall Street Journal* on May 12-16, 2005, and by *ABC News* and the *Washington Post* on March 10-13, 2005, available at <http://www.pollingreport.com/social.htm>.

⁶⁷ See CRS Report RL32792, *Life Expectancy in the United States*, by Laura B. Shrestha, for detailed information.

⁶⁸ Federal Interagency Forum on Aging Related Statistics, “Older Americans 2004, Key Indicators of Well-Being,” p. 22.

⁶⁹ U.S. Census Bureau, “65+ in the United States: 2005,” December 2005, Table 3-1, p. 35.

However, at higher ages (age 85 and older), remaining life expectancy for blacks is higher than that of whites, both for men and women.⁷⁰

Options to Reduce Benefits Based on Increases in Longevity

This report examines two options to slow the growth in Social Security benefits by indexing (i.e., linking the reduction in) *initial* benefits to increases in longevity.⁷¹

- **Longevity Index PIA Formula Factors.** The first approach would reduce the Social Security Primary Insurance Amount (PIA) by multiplying the PIA formula factors (90%, 32%, and 15%) by 0.995 annually (i.e., reducing the PIA factors by 0.5% annually).⁷² This adjustment would reduce monthly benefit levels by an amount equivalent to increasing the FRA for retired workers by enough to maintain a constant life expectancy at the FRA for any fixed age of benefit entitlement.⁷³ For example, for those reaching age 62 in 2013, the first year that the policy is effective, the PIA formula factors would be 89.55%, 31.84%, and 14.925%.

The 0.995 multiplier would be updated every 10 years (starting after 2010) to reflect actual historical increases in longevity for the most recent decade. This provision would apply to all new beneficiaries.

- **Longevity Index PIA Value.** The second approach would reduce a beneficiary's Social Security PIA by multiplying the current-law PIA by the ratio of the life expectancy at age 62 for 2010 to the life expectancy at age 62 for the year that is three years prior to the year in which the retiree turns 62.⁷⁴ For example, for a worker retiring at age 62 in 2024, the reduction in benefit level would be based upon the increase in life expectancy at age 62 between 2010 and 2021 (year 2024 - three years).⁷⁵

This provision would apply to all new OASI beneficiaries but would require a complex calculation for disabled beneficiaries. Disabled beneficiaries would not be affected until they reach the full retirement age (FRA) and convert to retired-worker benefits.⁷⁶ Then, at the FRA, a proportional reduction would apply to their benefits based on the number of years they could have worked since 2006 (i.e. years without disability benefits).⁷⁷ With this formula, disabled workers that had few years of work would have a smaller weight

⁷⁰ See CRS Report RL32792, *Life Expectancy in the United States*, by Laura B. Shrestha.

⁷¹ There are certainly a number of possible approaches to achieving longevity indexing and these two options are not intended to be exhaustive. Rather, we have selected two that include the most variety among recent proposals in terms of what is being reduced (PIA formula factors versus the dollar amount of the PIA itself) and who is being affected (all beneficiaries or with some being held harmless) and how the special-treatment groups are ultimately affected (e.g. proportionally reducing benefits for the DI beneficiaries upon conversion to retired-worker benefits at the FRA).

⁷² For more information on the PIA calculation under current law, please refer to **Appendix A**.

⁷³ Calculations of the 0.995 multiplier are based on the mortality assumptions for the intermediate estimates of the 2004 OASDI Trustees Report and the actuarial reduction factors in current law.

⁷⁴ A minimum of a three-year lag is necessary to ensure the availability of final life expectancy data. In all cases, life expectancy is taken from period life tables in the relevant calendar years.

⁷⁵ Calculations of the reductions applied to PIAs are based on the mortality assumptions for the intermediate estimates of the 2004 OASDI Trustees Report and the actuarial reduction factors in current law.

⁷⁶ Under current law, all Disability Insurance (DI) beneficiaries convert to Old-Age or Survivor Insurance (OASI) benefits at the full retirement age.

⁷⁷ The year 2006 is assumed to be the year that the bill establishing this provision is passed.

placed on the longevity-indexed OASI benefit than on the unreduced current-law DI benefit when the worker's retirement benefit is calculated at conversion.

For both options, the changes are assumed to be effective in 2013.

Distributional Effects in 2035

The distributional effects of both longevity indexing options vary by age, benefit type, and income quintile.

- Under both longevity-indexing options, the later a beneficiary becomes eligible for Social Security benefits after the policy takes effect in 2013, the more he or she would be affected by longevity-indexing reductions to the PIA. Thus, older beneficiaries would see the least amount of change under both of the longevity indexing options. The oldest old (those 86 and older in 2035) would be nearly held harmless, while those retiring early (age 62 to 66 in 2035) would face the largest percent reductions relative to current law.
- Retired workers would experience proportionally larger benefit reductions than other beneficiaries, partly because they are more likely to be subject to the Retirement Earnings Test (RET). Survivors, who are predominantly women and who frequently qualify for survivor benefits off of their husband's earnings record, would have smaller benefit cuts than other beneficiaries.
- Generally, the effect of reducing the PIA through longevity indexing would be proportionate, with most of the individuals in each income quintile experiencing the expected 10% reduction.⁷⁸ However, some interaction with current law program rules results in higher cuts for higher-income beneficiaries than for lower-income beneficiaries.

Longevity Indexing the PIA Formula Factors

Those beneficiaries who *first* become eligible for benefits in 2035 would face benefit reductions of approximately 10% under this policy option because of the cumulative effect of reducing the PIA formula factors by 0.5% per year over 22 years. Those receiving benefits in 2035, including all of those who became eligible for benefits since 2013, would experience a median benefit reduction of 5% compared with current law. The majority (76%) of beneficiaries would have benefit cuts of up to 10%. Some (16%) would experience no benefit change and some (7%) would experience benefit cuts of 10% or more relative to current law. The primary reasons for these varied experiences are

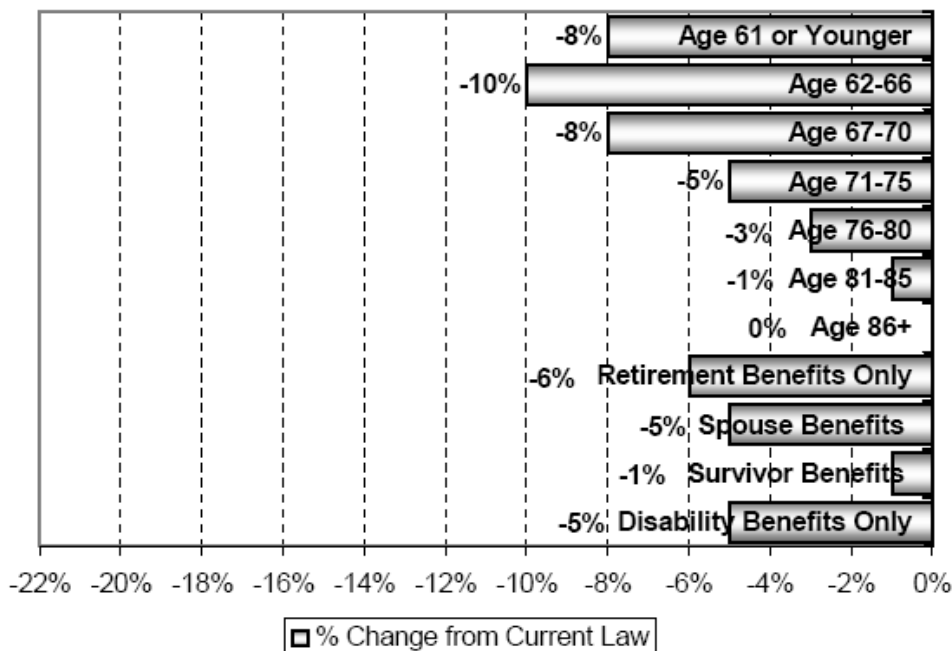
- Differences in the year when an individual becomes eligible for Social Security benefits; and
- The interaction of the longevity indexing provision with current-law program rules.

As **Figure 12** demonstrates, an individual's age has a large impact on the size of the benefit reduction an individual would face if the PIA formula factors were longevity indexed. The PIA is calculated at the earliest eligibility age (age 62 for retired workers, the year of disability for disabled workers, and the year of death of the insured worker for survivors). Because the

⁷⁸ The 0.995 reduction is compounded over 22 years $(0.995)^{22} = 0.896$. Therefore, in 2035 the PIA formula factors are multiplied by 89.6%, leading to a reduction of 10.4% in the PIA.

longevity indexing provision applies to the PIA formula factors, all beneficiaries of the same birth cohort are projected to experience approximately the same benefit reduction. The size of the benefit reduction increases after 2013 with each passing year due to the cumulative effect of the annual 0.5% reduction to the PIA formula factors. Thus, the youngest beneficiaries, who become eligible for retirement benefits in later years, would have the greatest reductions. For example, in 2035, beneficiaries between age 62 and 66 are projected to have their benefits cut by a median of 10% compared with current law. By contrast, beneficiaries age 86 and over are projected to experience no benefit change as they would have already passed the earliest eligibility age before the longevity indexing policy takes effect in 2013. Individuals aged 61 or younger would experience a smaller benefit reduction than those aged 62 through 66 because the younger group is composed of disabled worker and survivor beneficiaries. Because disabled worker and survivor beneficiaries have their PIAs calculated at younger ages than retired worker beneficiaries of the same birth cohorts (because their eligibility age is likely to be lower than age 62), the lower the number of years that would have passed between 2013 and the year of entitlement, and the smaller the effect of longevity indexing on the PIA formula factors.

Figure 12. Median Percent Change in Benefits Under Longevity Indexing the PIA Factors Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

The interaction of the current-law Social Security program rules with the longevity indexing provision leads to variation in projected benefit reduction. This variation is most evident when examining individuals by the type of benefit they receive. For example, as **Figure 12** shows, retired worker beneficiaries would experience a median benefit reduction of approximately 6% relative to current law, while survivor beneficiaries would receive a median benefit reduction of only 1%. The Social Security Retirement Earnings Test (RET) would lead some beneficiaries to

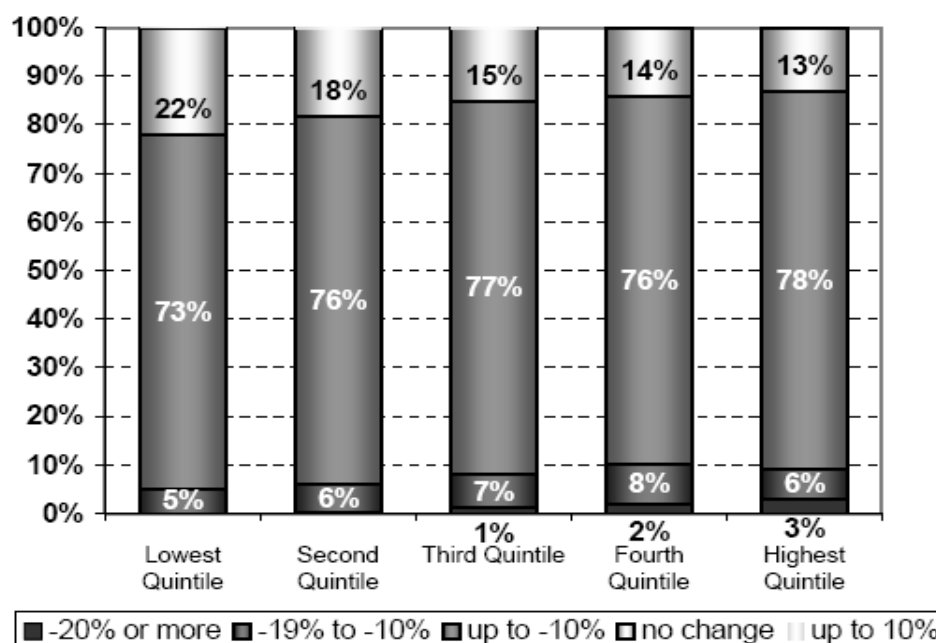
receive larger than expected benefit reductions when combined with longevity indexing the PIA factors.⁷⁹ Relative to other benefit types, retired workers would be much more likely to take early Social Security retirement benefits but keep working, making them subject to the RET. Under the RET, these workers would experience a benefit reduction of up to 100% because of post-retirement earnings in excess of the RET thresholds until they reach the FRA. On the other extreme, survivors would receive smaller benefit reductions than expected under the policy option due to the Social Security dual-entitlement rule.⁸⁰ Because of the application of the Social Security dual-entitlement rule, survivor beneficiaries, who are more likely to be female (99% of aged survivors are women) and have lower earnings than their male counterparts, are likely to obtain a larger portion of their survivor benefits off of the earnings record of an older spouse than off of their own earnings record. Under the longevity indexing option, this older spouse would likely have a smaller reduction to his PIA than the survivor would on her own record. Thus, the survivor's overall benefit reduction would be smaller than those receiving only a retired worker benefit.

Because longevity indexing would lead to proportional reductions in Social Security benefits, median benefit reductions do not vary significantly by income group. In 2035, beneficiaries in the lowest income quintile are projected to receive a median benefit reduction of 4% while beneficiaries in the highest income quintile are projected to receive a median benefit reduction of 6%. As seen in **Figure 13**, the majority of individuals (roughly 75%) receive a benefit reduction of less than 10% compared with current law, regardless of income quintile. However, more of those in the lowest income quintile (22%) experience no benefit change, while more of those in the two highest income quintiles (10% and 9%, respectively) experience larger benefit reductions than expected (i.e., greater than 10%) under the option.

⁷⁹ Please see **Appendix C** for additional information on how the Retirement Earnings Test (RET) works and could result in larger benefit decreases or benefit increases relative to current law than are attributable solely to the policy option.

⁸⁰ Please see **Appendix B** for additional information on how the Social Security spousal and survivor benefit rules could result in smaller benefit decreases relative to current law than are attributable solely to the policy option.

Figure 13. Percentage Change in Benefits Under Longevity Indexing the PIA Formula Factors Compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Those in the lowest income quintile who experience no benefit change are primarily survivor beneficiaries or disabled workers. These survivors tend to be in the older age groups and thus are not affected by the policy change. The disabled workers qualify for benefits in earlier years than the rest of their birth cohort and so face lesser reductions under the policy change. Both groups rely heavily on Social Security in retirement. Thus, the disproportionate number of these groups in the 'no change' category could be viewed as an advantage for this policy option.

Those in the top income quintile that received disproportionately large benefit reductions are not actually being hit by the longevity indexing provision, but are being affected by the RET. All of the individuals in this category fall between the ages of 62 and 66, took early retirement benefits, and are retired worker beneficiaries who have continued working after early retirement, subjecting them to the RET. Because earnings are included in the definition of income, those with post-entitlement earnings tend to fall into the upper income quintiles. These same individuals are then subject to the RET because of these post retirement earnings occurring prior to the full retirement age. It is important to note, however, that once these individuals reach the FRA, after which the RET no longer applies, their median benefit reduction falls into the expected range of between 0% and 10%.

Longevity Indexing the PIA Value

Beneficiaries *first* becoming eligible for benefits in 2035 would face benefit reductions of approximately 6% under this policy option because of the cumulative effect of reducing the PIA

by 0.3% per year over 22 years.⁸¹ Those receiving benefits in 2035, including all of those becoming eligible for benefits since 2013, would experience a median benefit reduction of 2% relative to current law. The distributional effect of longevity indexing the PIA value is similar to that of longevity indexing the PIA formula factors. The majority (70%) of beneficiaries would have benefit cuts of up to 10%. Some (29%) would experience no benefit change and a few (2%) would experience benefit cuts of 10% or more compared with current law. The primary reasons behind these varied experiences are:

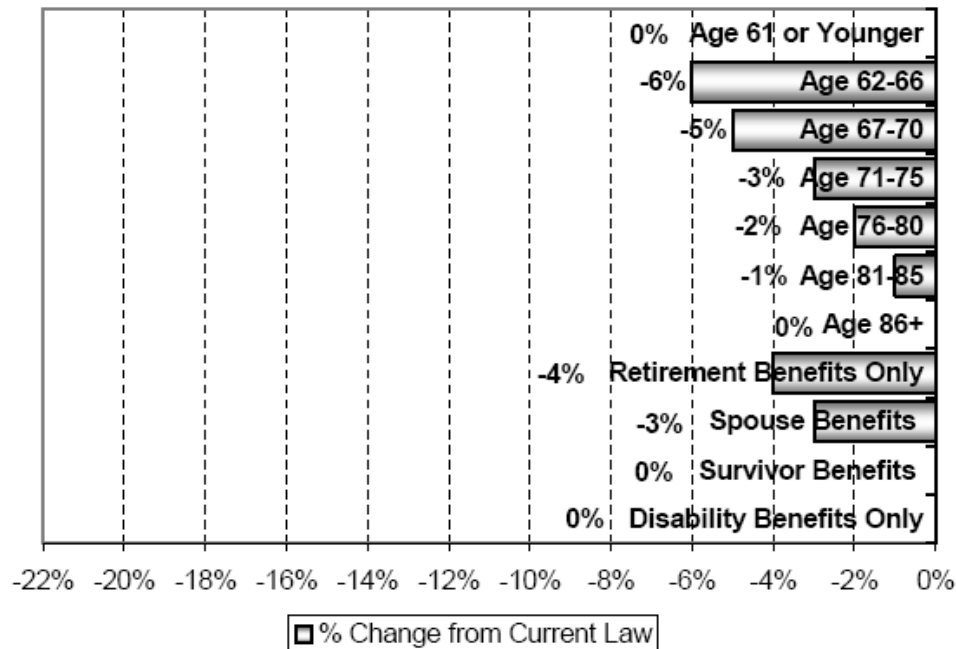
- Differences in the year when an individual becomes eligible for Social Security benefits;
- The special treatment afforded to DI beneficiaries under this option; and
- The interaction of the longevity indexing provision with current-law program rules.

As with the first longevity indexing option, the size of the benefit reduction increases the later a beneficiary becomes eligible to receive benefits. Thus, the youngest beneficiaries tend to have the greatest reductions. For example, as seen in **Figure 14**, in 2035, beneficiaries younger than the full retirement age (age 62 through 66) are projected to face a median benefit cut of about 6% compared with current law. By contrast, beneficiaries over age 85 are projected to experience no benefit reduction.

Unlike the first longevity indexing option discussed in this report, the option to longevity index the PIA value holds disabled workers harmless from any benefit reduction until they have reached the full retirement age. At the FRA, disabled worker benefits convert automatically to retired worker benefits and are subject to a proportional reduction under longevity indexing based on the number of possible work years that the worker was not disabled and thus able to work. This policy difference explains the few distributional differences between the two longevity indexing options and leads to unexpected results in some beneficiary categories. For example, under the option indexing the PIA value itself, disability beneficiaries receive no benefit reductions under this policy option (**Figure 14**) but would experience a median benefit reduction of 5% under the alternative discussed above (**Figure 12**).

⁸¹ The 0.997 reduction is compounded over 22 years $(0.993)^{22} = 0.936$. Therefore, in 2035 the PIA formula factors are multiplied by 93.6%, leading to a reduction of 6.4% in the PIA.

Figure 14. Median Percent Change in Benefits Under Longevity Indexing the PIA Value Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



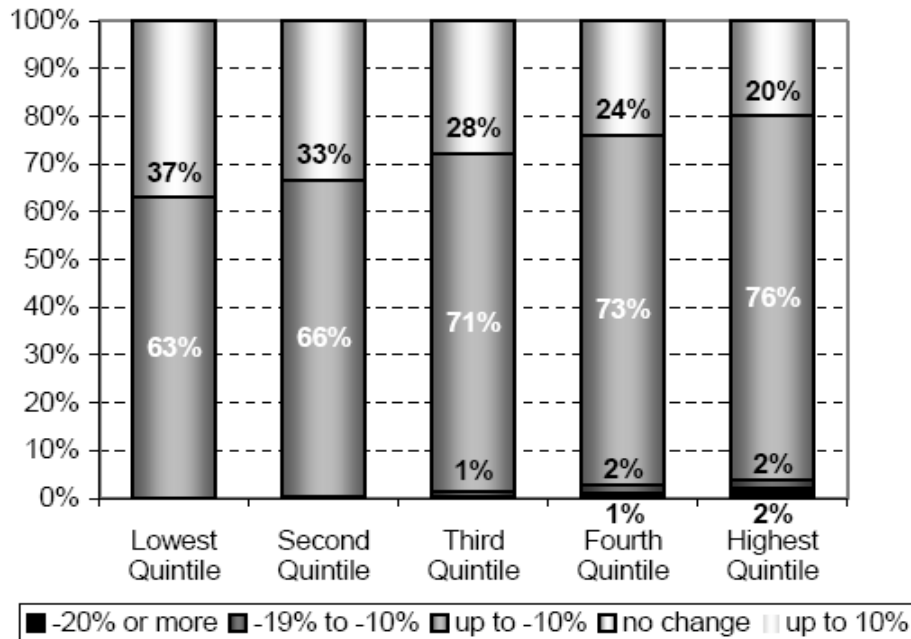
Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

The interaction of current-law Social Security program rules with longevity-indexing the PIA value leads to variation in projected benefit reduction. For example, as **Figure 14** shows, retired worker beneficiaries would experience a median benefit reduction of approximately 4%, while survivor beneficiaries would receive no benefit reduction. The interaction of the Social Security dual entitlement rule with the hold-harmless treatment afforded to DI beneficiaries under this option leads some other categories of beneficiaries to appear better off than would be expected under the policy option. More of those receiving survivor benefits under current law would instead continue to receive DI benefits off of their own record through 2035 since the DI benefit they are eligible for is higher than the survivor benefit they would receive under the option. As a result, survivor beneficiaries are held harmless under the option indexing the PIA value because of the current-law program rules that provide individuals with the higher of their own benefit or the survivor benefit that they are eligible to receive.

Because longevity indexing the PIA value would lead to proportional reductions in benefits, median benefit reductions do not vary significantly by income group. In 2035, beneficiaries in the lowest income quintile are projected to receive a median benefit reduction of 2% while beneficiaries in the highest income quintile are projected to receive a median benefit reduction of 3% compared with current law. As seen in **Figure 15**, the majority of individuals (roughly 70%) receive benefit reduction of less than 10%, regardless of income quintile. However, more of those in the lowest income quintile (37%) experience no benefit change, while more of those in the highest income quintile (4%) experience larger benefit reductions than expected (i.e., greater than 6%) under the option.

Figure 15. Percentage Change in Benefits Under Longevity Indexing the PIA Value Compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Those in the lowest income quintile are primarily retired worker and DI beneficiaries. Although retired worker beneficiaries outnumber the DI beneficiaries in this income quintile, retired worker beneficiaries are the most common among all benefit types and are fairly equally distributed among all of the income quintiles. Disabled workers fall disproportionately in the lower income quintile categories because they have fewer years of work to be able to save. The DI beneficiaries, who rely heavily on Social Security benefits, are held harmless under this longevity indexing option or receive proportionally reduced benefits relative to the rest of their birth cohort and so face lesser reductions under the policy change. Thus, the larger number of this group in the 'no change' category could be viewed as an advantage for this policy option.

As with the previous longevity indexing option, those in the top two income quintiles that received disproportionately large benefit reductions are not actually being hit by the longevity indexing provision, but are being affected by the RET. All of the individuals in this category fall between the ages of 62 and 66, took early retirement benefits, and are retired worker beneficiaries who have continued working after early retirement, subjecting them to the RET. Because earnings are included in the definition of income, those with post-entitlement earnings tend to fall into the upper income quintiles. These same individuals are then subject to the RET because of these post retirement earnings occurring prior to the full retirement age. It is important to note, however, that once these individuals reach the FRA, after which the RET no longer applies, their median benefit reduction falls into the expected range of between 0% and 6%.

Legislation Related to Longevity-Indexing Social Security Benefits

In the 109th Congress, three bills were introduced that contained, among other things, provisions to reduce Social Security benefits in line with increases in longevity. S. 540 and S. 2427, like the first longevity indexing option analyzed in this report, would reduce the PIA formula factors. Like the second option analyzed in this report, H.R. 440 would reduce the PIA value itself.⁸²

S. 540, introduced by Senator Chuck Hagel, would take effect for those retired workers and survivors attaining age 62 in 2024 and later, but would not apply for calculating surviving child benefits nor for calculating surviving spouse benefits with a child in care.⁸³ The size of the annual reduction in the PIA formula factors is expected to be approximately 0.5%. As with the treatment of disability benefits in the second longevity-indexing provision analyzed in this report, S. 540 would hold DI beneficiaries harmless from longevity indexing until they convert to retired worker benefits at the FRA. Then, at the FRA, a portion of the reduction applied to the retired workers of the same age would apply to their benefits based on the number of years they could have worked since 2005 (i.e., years without disability benefits). In their official memorandum analyzing the effects of S. 540, the Social Security actuaries did not provide an estimate for the actuarial savings that the longevity-indexing provision would be expected to achieve on its own.

S. 2427, introduced by Senator Robert Bennett, would have applied to those becoming eligible for aged OASI benefits (not surviving child benefits nor surviving spouse benefits with a child in care) in 2018 and later.⁸⁴ The size of the annual reduction in the PIA formula factors is expected to be approximately 0.3%. DI beneficiaries would be held harmless until they converted to retired worker benefits at the FRA. Then, at the FRA (or at entitlement to any retired worker benefit or aged surviving benefit, if earlier), a portion of the reduction applied to the retired workers of the same age would apply to their benefits based on the number of years they could have worked since age 22, or 2006, if later (i.e., years without disability benefits). In their official memorandum analyzing the effects of S. 2427, the Social Security Actuaries did not provide an estimate for the actuarial savings that the longevity-indexing provision would be expected to achieve on its own.

Like the second option analyzed in this report, H.R. 440, introduced by Representatives Kolbe and Boyd, would reduce the PIA value itself. Under H.R. 440, longevity-indexing would take effect for those retired workers and survivors newly eligible for Social Security benefits in 2013 and later.⁸⁵ The size of the annual reduction in the PIA formula factors is expected to be approximately 0.3%. As with the treatment of disability benefits in the second longevity-indexing

⁸² All of these bills rely on the Social Security Administration Office of the Chief Actuary's unisex life expectancy estimates to determine the annual benefit reduction.

⁸³ Social Security Administration, Memorandum to Senator Chuck Hagel from Stephen C. Goss, Chief Actuary, and Alice H. Wade, Deputy Chief Actuary, "Estimated Financial Effects of 'The Saving Social Security Act of 2005'—Information," March 10, 2005, available at http://www.ssa.gov/OACT/solvency/CHagel_20050310.html.

⁸⁴ Social Security Administration, Memorandum to Senator Robert Bennett, Vice Chairman, Joint Economic Committee of Congress, from Stephen C. Goss, Chief Actuary, and Alice H. Wade, Deputy Chief Actuary, "Estimated Financial Effects of a Proposal to Restore Sustainable Solvency for the Social Security Program—Information," March 16, 2006, available at <http://www.ssa.gov/OACT/solvency/index.html>.

⁸⁵ Social Security Administration, Memorandum to Representative Jim Kolbe and Representative Allen Boyd from Stephen C. Goss, Chief Actuary, Alice H. Wade, Deputy Chief Actuary, and Chris Chaplain, Actuary, "Estimated Financial Effects of the 'Bipartisan Retirement Security Act of 2005'—Information," November 4, 2005, available at <http://www.ssa.gov/OACT/solvency/index.html>.

provision analyzed in this report, H.R. 440 would hold DI beneficiaries harmless from longevity indexing until they convert to retired worker benefits at the FRA. Then, at the FRA, a portion of the reduction applied to the retired workers of the same age would apply to their benefits based on the number of years they could have worked since age 22, or 2006, if later (i.e., years without disability benefits). The Social Security actuaries estimated that this provision, taken alone, would increase the long-range OASDI actuarial balance by 0.52% of taxable payroll based on the intermediate assumptions of the 2005 Trustees Report.

Progressive Price Indexing: Index Initial Social Security Benefits to Wage Growth and Price Growth

Wage Indexing and Price Indexing Under Current Law

The current-law Social Security benefit formula provides beneficiaries higher benefits over time, both across and within generations. Each successive generation receives higher benefits than those before them, reflecting increases in each generation's earnings over time. Each generation also receives higher benefits over their own life-time, reflecting changes in the purchasing power of their monthly Social Security benefit check.

Under current law, Social Security benefits increase from one generation to the next at the rate that the national average wage rises. In other words, *initial* Social Security benefits are *wage-indexed*. This feature allows benefits to reflect improvements in the standard of living over time. It also recognizes that workers' payroll tax payments to Social Security increase along with the rise in wages.

Once enrolled in the program, beneficiaries' Social Security checks increase each year at the same rate as the Consumer Price Index (CPI-W); that is, *post-entitlement* benefits are *price-indexed*. At the end of each year, the Social Security Administration announces the cost-of-living adjustment (COLA) that is used to increase benefits payable beginning in January of the following year. The annual COLA is designed to maintain the purchasing power of Social Security benefits over the beneficiary's lifetime. (It is important to note that the progressive price indexing policy option would *not* affect the annual Social Security COLA.)⁸⁶

Reasons Some Policymakers Propose Progressive Price Indexing

Under progressive price indexing, *initial* Social Security benefits would be indexed to a combination of wage and price growth (rather than wage growth only as under current law).⁸⁷ Under this policy option, individuals with very low earnings would receive initial benefits indexed to wages as under current law. Workers with higher earnings would receive initial benefits that are indexed to prices. Since prices have historically grown more slowly than wages over time, higher-earning workers would receive lower benefits under this option than under

⁸⁶ Options that would alter the computation of the Social Security COLA are addressed in a separate section of this report.

⁸⁷ For more information, see CRS Report RL32900, *Indexing Social Security Benefits: The Effects of Price and Wage Indexes*, by Patrick Purcell, Laura Haltzel, and Neela K. Ranade.

current law.⁸⁸ Proponents view progressive price indexing as a means to constrain the growth of initial benefits for future retirees and provide cost savings for the system while protecting the benefits of low-earning workers.

The progressive price indexing option emerged as a modified version of full price indexing, which also has been proposed by some policymakers. Under full price indexing, initial benefits for *all* future beneficiaries, not just higher-earners, would be indexed to price growth rather than wage growth. By indexing initial benefits to a combination of wage growth and price growth, the progressive price indexing option is designed to provide the same level of benefits as under current law for very low earners and the same level of benefits as under a full price indexing mechanism for high earners.⁸⁹ Workers at other earning levels would receive benefits that are lower than those scheduled under current law and greater than those projected under full price indexing. Proponents of progressive price indexing believe that blending price and wage indexing will reduce the policy's impact on low earners who are more likely to rely on Social Security benefits for a greater share of their total retirement income. However, the growth of initial benefits for higher-earner future retirees would no longer keep pace with average wage growth in the economy and Social Security benefits would replace a smaller and smaller share of an individual's pre-retirement income. Over a long period of time, these increasing benefit cuts would cause the majority of workers to receive the same initial benefit.⁹⁰

Option to Index Initial Social Security Benefits to Wage Growth and Price Growth (Progressive Price Indexing)

There are two components of the Social Security benefit formula that are wage-indexed, although only one is modified by this option. (For a complete description of how the benefit formula is calculated see **Appendix A**.) The first component is workers' past earnings, which are wage-indexed before calculating the worker's career average earnings. This feature allows earnings at the start of a worker's career to be treated equally with those earned at the end of his or her career. Without wage-indexation, the timing of a worker's earnings—whether peak earnings came early or late in his or her career—would influence the benefits that individual would receive. This wage-indexing of earnings is *not* changed under this option.

The second wage-indexed component of the Social Security benefit formula is the portion of the PIA formula designed to provide a level of Social Security benefits that replaces about the same

⁸⁸ Due to increases in worker productivity, wages tend to rise faster than prices when measured over long periods of time. Consequently, if initial benefits were based on the rate at which prices rise rather than the rate at which wages rise, initial benefits for each succeeding generation of workers would grow more slowly than under current law. Under the intermediate assumptions of the 2005 Social Security Trustees Report, wages (measured by the average wage in covered employment) are projected to increase at an average annual rate of 3.9% over the 75-year projection period. By comparison, prices (measured by the Consumer Price Index) are projected to increase at an average annual rate of 2.8% over the next 75 years. (*The 2005 Annual Report of the Board of Trustees of the Federal Old-Age and Survivor Insurance and Federal Disability Insurance Trust Funds*, Table II.C1.)

⁸⁹ This analysis is based on a progressive price indexing proposal in which workers with career-average earnings in the lowest 30% of the earnings distribution would continue to have their initial benefits fully wage-indexed. Congress could, of course, define low-earners in any of a number of ways, depending on the relative importance it assigns to reducing program costs compared with maintaining the benefits of workers with low earnings.

⁹⁰ CRS estimates this would occur approximately 90 years following the implementation of progressive price indexing. (CRS Report RL32900, *Indexing Social Security Benefits: The Effects of Price and Wage Indexes*, by Patrick Purcell, Laura Haltzel, and Neela K. Ranade.)

share of pre-retirement earnings (i.e. replacement rate) for workers with similar earnings regardless of when they become eligible for benefits.⁹¹ For example, under current law, Social Security benefits would replace about 40% of pre-retirement earnings for workers who earn the economy-wide average wage for their entire career. Wage-indexing the current benefit formula allows the growth of initial benefits for future retirees to keep pace with the growth in wages in the economy and allows future cohorts of beneficiaries to maintain their pre-retirement standard of living. It is this wage-indexing feature, which ensures replacement rates are maintained across cohorts, that is modified under this option. The mechanics of progressive price indexing the benefit formula can be found in **Appendix D**.

Distributional Effects in 2035

The distributional effects of progressive price indexing vary by age, benefit type, and income quintile.

- Overall, an estimated 69% of all beneficiaries in 2035 would be affected by progressive price indexing.
- For beneficiaries in 2035, progressive price indexing would result in a median benefit cut of 4% compared with current law.
- The effects of progressive price indexing would increase over time. Thus, each successive generation of beneficiaries would have deeper benefit cuts than the last. As a result, younger beneficiaries in 2035 would have larger benefit reductions than would older beneficiaries.
- Higher-income beneficiaries would also have proportionately higher benefit reductions than lower-income beneficiaries since the option is designed to be progressive.

Figure 16 shows the median percentage change in benefits under progressive price indexing among beneficiaries in 2035 by age and benefit type. The oldest beneficiaries (aged 86 and older in 2035) would receive little or no change in benefits compared with current law. These beneficiaries would have been eligible for benefits before the option is assumed to take effect in 2013. Beneficiaries age 76-80 would receive a median benefit reduction of 4% under progressive price indexing, because the policy would have been in effect for only a few years before they became eligible for benefits. Individuals in the age 71-75, age 67-70 and age 62-66 categories would receive median benefit reductions of 7%, 9% and 8%, respectively. The youngest cohort of beneficiaries (aged 61 and younger) would receive the smallest cut in benefits (2%). Disability beneficiaries, who make up approximately 96% of this youngest age category, have generally smaller cuts in benefits as they may have become eligible before the policy took effect or had low earnings.

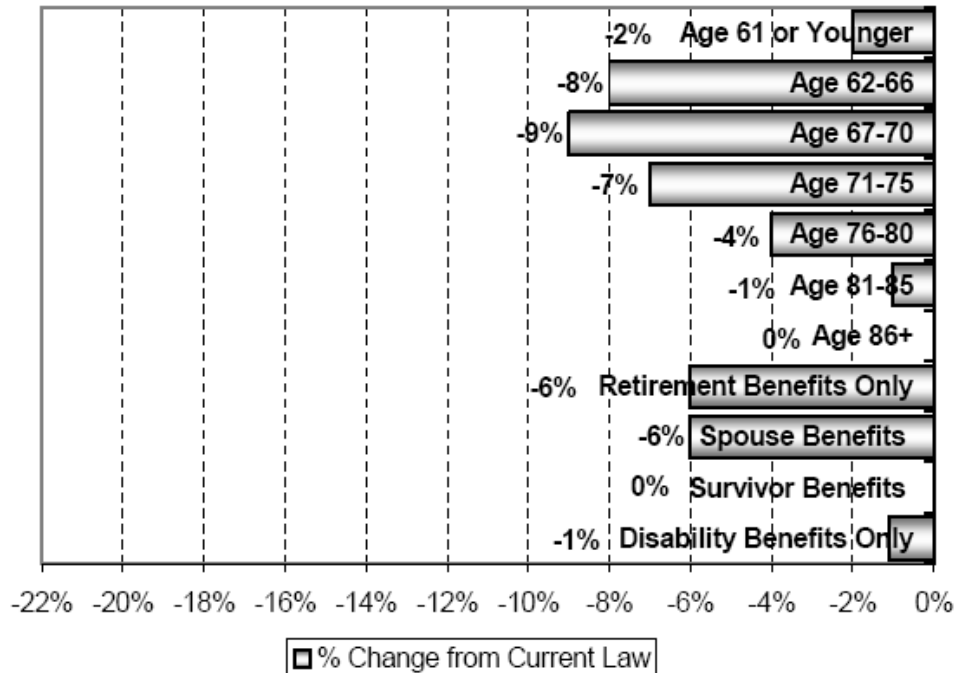
There are significant differences in benefit reductions by the type of benefits a person receives. Retired worker or spousal beneficiaries would have a median cut in benefits of 6% compared with current law. Disability beneficiaries would receive a relatively small median reduction (1%) under progressive price indexing (for reasons described above). Survivor beneficiaries are projected to receive no median change in benefits.⁹² In 2035, almost 80% of survivor

⁹¹ The benefit formula is structured to provide a higher replacement rate for lower-wage earners and a lower replacement rate for higher-wage earners.

⁹² Among survivor beneficiaries in 2035, 51% would have no change in benefits relative to current law, 40% would (continued...)

beneficiaries are projected to be age 71 or older and therefore could have become eligible before the policy took effect.

Figure 16. Median Percentage Change in Benefits Under Progressive Price Indexing Compared with Current Law Among Beneficiaries in 2035 by Age and Benefit Type



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

Figure 17 shows the percentage change in benefits under progressive price indexing among beneficiaries in 2035 by income quintiles. Progressive price indexing is designed to cause minimal benefit reductions for individuals with low earnings and larger reductions for those with high earnings. Since earnings tend to be a good indicator of income, the pattern of the results shown in **Figure 17** is generally consistent with the intent of the option. The share of beneficiaries that experience no change from the policy decreases with rising income, and the share of beneficiaries that have large benefit cuts increases with rising income. While two thirds of beneficiaries in the lowest quintile are unaffected by the policy, only 16% of those in the highest quintile would see their benefits remain the same as under current law. The highest two income quintiles have the largest proportion of beneficiaries (5% and 4%) who would receive cuts of 20% or more. No individuals in the lowest two income quintiles receive a benefit reduction of 20% or more.

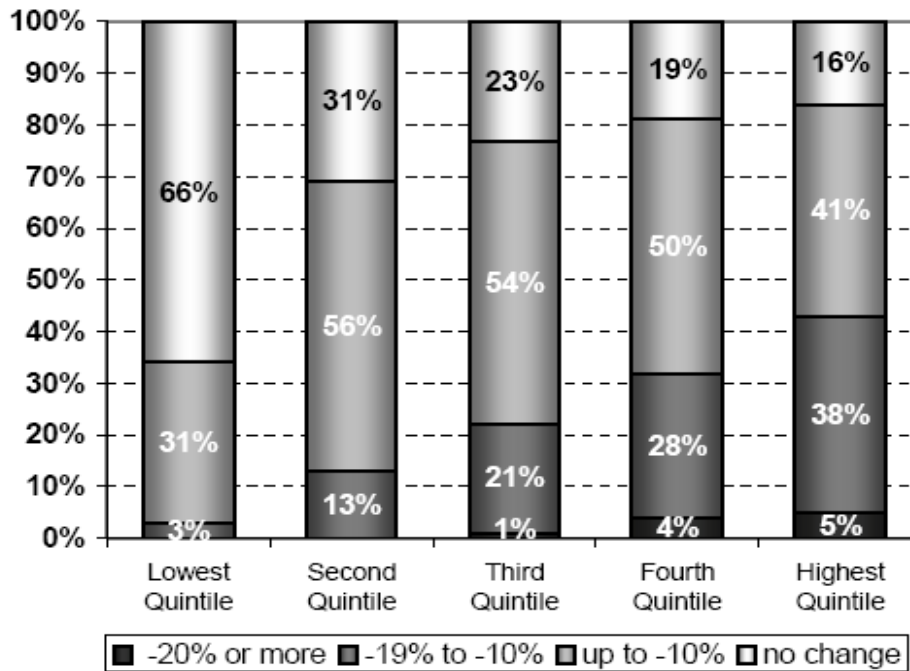
This option is designed to protect the benefits of low earners, so it is not surprising that two thirds of beneficiaries in the lowest income quintile would receive no change in benefits. However, having low *earnings* during a worker's career does not always correspond with having low

(...continued)

have a benefit cut of less than 10%; and 9% would have a cut in benefits of 10% or more.

income during retirement. Likewise, an individual could have high earnings during their career and live in a low-income household during retirement. This explains why roughly one third of beneficiaries in the lowest income quintile will receive a benefit reduction, although only 3% of these low-income beneficiaries will receive cuts of 10% or more.

Figure 17. Percentage Change in Benefits Under Progressive Price Indexing Compared with Current Law Among Beneficiaries in 2035 by Income Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Categories may not add to 100% due to rounding. Please see the section on "What Do the Figures Show?" in the report "Introduction."

Because progressive price indexing closely resembles full price indexing at high earnings levels, beneficiaries in the highest income categories would experience the largest benefit reductions. As shown in **Figure 17**, 41% of individuals in the highest income quintile receive a benefit reduction of up to 10%. An additional 38% receive a benefit reduction of 10% to 19%, and 5% of individuals in the highest income quintile receive a benefit reduction of 20% or more.

Legislation Related to Progressive Price Indexing

In the 109th Congress, S. 2427, introduced by Senator Bennett, would have constrained the growth of initial Social Security benefits for future retirees through progressive price indexing. The cost estimate for S. 2427 prepared by the Social Security Administration's Office of the Chief Actuary, which provides a description of the provision, does not include the estimated trust fund effect of this provision on its own.⁹³

⁹³ Social Security Administration, Office of the Chief Actuary, *Estimated Financial Effects of a Proposal to Restore* (continued...)

The actuaries at the Social Security Administration have calculated the impact on the solvency of the Social Security trust funds of a progressive price indexing option similar to the one analyzed in this report.⁹⁴ Under the intermediate assumptions of the 2005 Trustees Report, they estimate that progressive price indexing initial benefits could significantly improve the solvency of the Social Security program.⁹⁵ This option is projected to eliminate 75% of the long-range financial shortfall under current law and would extend the trust funds' exhaustion date from 2041 to 2051.

Raising or Eliminating the Taxable Earnings Base

Taxable Earnings Base Under Current Law

Social Security payroll taxes are levied on earnings up to a maximum level set each year.⁹⁶ In 2006, this maximum, or what is referred to as the taxable earnings base, was \$94,200.⁹⁷ The taxable earnings base serves as both a cap on contributions into the system and a cap on benefits. As a contribution base, it establishes the maximum amount of covered earnings that are subject to the payroll tax. As a benefit base, it establishes the maximum amount of covered earnings that are used to calculate benefits.

The taxable earnings base limits the amount of wages or self-employment income used to calculate contributions to Social Security.⁹⁸ Unlike income taxes, workers who have earnings over the limit, whether they earn \$100,000 thousand or \$100 million, pay the same amount in Social Security payroll taxes. Under the 2006 limit of \$94,200, the maximum amount a wage and salary worker would have contributed to Social Security was \$5,840.40⁹⁹ (his or her employer would contribute an equal amount) while a self-employed individual would have contributed a maximum of \$11,680.80.

(...continued)

Sustainable Solvency for the Social Security Program, March 16, 2006, available at <http://www.ssa.gov/OACT/solvency/index.html>.

⁹⁴ Note that the actuaries' estimate assumed the policy would be implemented in 2012 and not in 2013 as is done in this report.

⁹⁵ Social Security Administration, *Estimated OASDI Long-Range Financial Effects of Several Provisions Requested by the Social Security Advisory Board*, Memorandum, dated August 10, 2005; available at <http://www.ssab.gov/documents/advisoryboardmemo—2005tr—08102005.pdf>.

⁹⁶ Social Security payroll taxes are levied on covered earnings. Individuals within certain income brackets may also pay income taxes on Social Security benefit payments. The analysis in this report focuses exclusively on the distributional effects of raising or eliminating the level of earnings subject to payroll taxes.

⁹⁷ The base is increased each year based on the change in average wages. For a more complete description and history of the earnings base, see CRS Report RL32896, *Social Security: Raising or Eliminating the Taxable Earnings Base*, by Janemarie Mulvey and Debra B. Whitman.

⁹⁸ Both employers and employees contribute 6.2% of covered earnings and the self-employed contribute 12.4% of net self-employment income for Social Security (both the Old Age and Survivors Insurance (OASI) and Disability Insurance (DI) programs). Note that some workers (approximately 4%) are exempt from Social Security payroll taxes and are therefore not "covered" by Social Security. From this point forward, all references to earnings are "covered" earnings and workers are "covered" workers. For a listing of workers who are exempt from Social Security taxes see CRS Report 94-28, *Social Security and Medicare Taxes and Premiums: Fact Sheet*, by Dawn Nuschler.

⁹⁹ $\$94,200 \times 6.2\% = \$5,840.40$ and $\$94,200 \times 12.4\% = \$11,680.80$

The taxable earnings base also limits the annual amount of earnings that are used in benefit calculations and thus sets a ceiling on the amount Social Security pays in benefits. For example, the maximum amount of earnings in 2006 that would be used to calculate a worker's benefit was \$94,200, regardless of whether the worker earned above that amount. If an individual earned at or above the earnings base for his or her entire career¹⁰⁰ and retired in 2006 at the full retirement age, his or her annual benefit would be \$24,636 (\$2,886.33 per month), the maximum benefit payable under current law. However, very few Americans receive the maximum benefit as it is rare to have had such consistently high earnings over a lifetime.

According to statistics from the Social Security Administration, a small share of workers earn above the taxable earnings base each year. In 2003, 6% of workers (8.5 million individuals) earned more than the taxable earnings base.¹⁰¹ Most of the individuals earning above the base were men (6.7 million individuals or roughly 80% of the total). In 2003, 8% of all male workers and 3% of all female workers had earnings above the maximum. Most individuals earning above the base were wage and salary workers (roughly 90% of the total). Roughly 5% of all wage and salary workers (7.9 million individuals) and 5% of all self-employed workers (765,000 individuals) had earnings above the base in that year.

Reasons Some Policymakers Propose Raising or Eliminating the Taxable Earnings Base

Raising or removing the taxable earnings base could reduce or eliminate the long-term Social Security deficit.¹⁰² The additional tax revenues would be substantial. However, the full impact of the policy change would depend on whether the wages above the maximum would also be counted toward benefits. Raising or eliminating the taxable earnings base while maintaining the current benefit structure, where benefits are calculated on the full contribution base, would lead to higher monthly Social Security checks for individuals who earned more than the taxable wage base over their careers. These higher benefit payments would lead to greater program outlays although these outlays would be more than offset by greater tax revenues. While the solvency impact would be improved to a greater degree if the cap on taxes was eliminated and the cap on benefits was retained, the traditional link between contributions and benefits would be broken.

Some argue that the taxable wage base should cover a constant share of aggregate earnings. In 1982, 90% of aggregate earnings in the United States were taxed for Social Security.¹⁰³ Rising inequality—primarily increases in the earnings of the highest paid individuals—has led to a decline in the share of U.S. earnings that are taxed. In 2005, only 85% of aggregate earnings were taxed.¹⁰⁴ The share of earnings that are taxed is projected to continue to fall.¹⁰⁵ Maintaining a consistent tax base would increase revenue and help to improve the system's solvency.

¹⁰⁰ The Social Security benefit formula calculates benefits based on a worker's highest 35 years of earnings. For a description of the benefit computation rules under current law, please refer to **Appendix A**.

¹⁰¹ Social Security Administration, Annual Statistical Supplement, 2005, <http://www.ssa.gov/policy/docs/statcomps/supplement/2005/4b.html#table4.b1>. (Hereafter referred to as SSA Statistical Supplement, 2005.)

¹⁰² There is precedent for this proposal. There is no cap on earnings subject to the payroll tax that finances the hospital insurance (HI) portion of Medicare. When the HI tax was levied in 1966 the maximum taxable amount was set the same as for Social Security. As part of the Omnibus Budget Reconciliation Act of 1993 (P.L. 103-66) the HI base was removed, raising an estimated \$29 billion in revenues over the FY1994-FY1998 period.

¹⁰³ SSA Statistical Supplement, 2005.

¹⁰⁴ *Ibid.*

Options to Raise or Eliminate the Taxable Earnings Base

This report examines two proposals to raise or eliminate the taxable earnings base. Both options are assumed to be effective in 2013.

Option 1: Eliminate the taxable earnings base

One approach would be to remove the taxable earnings base completely. Under this scenario, all earnings would be taxed. Policymakers could retain the current earnings cap used to calculate Social Security benefits, or they could fully credit the additional earnings and allow benefits to rise for those individuals with earnings above the current taxable earnings base.

Option 2: Raise the taxable earnings base to cover 90% of earnings

A second approach would be to raise the taxable earnings base to consistently tax 90% of aggregate U.S. earnings—restoring it to roughly the level in 1983 when Congress last addressed Social Security's finances.¹⁰⁶ The earnings base for benefit calculation could also be raised to allow individuals to receive correspondingly higher benefits.

Distributional Effects in 2035

Raising or removing the taxable earnings base would only impact workers with high earnings. In 2003, 6% of covered workers earned more than the taxable earnings base.¹⁰⁷ The Dynasim model projects this share would remain relatively constant through 2050. While fewer than 8% of workers are projected to earn above the taxable earnings base in a given year, the model estimates that roughly one in five would earn above the maximum at some point in their lifetime (**Figure 18**). The model projects that 12% of workers would earn above the earnings base for between one and five years over the course of their working lives. Very few individuals sustain the high earnings for long periods in their careers. The model estimates that only 5% of workers would earn above the taxable wage base for more than five years.¹⁰⁸

Unlike the other sections in this report that analyze the effect of the policy option on the entire Dynasim population, most of the figures for the options to raise or eliminate the taxable earnings base include *only* beneficiaries who would be affected by the option. Since a relatively small share of beneficiaries would be affected by the options to raise or eliminate the taxable earnings

(...continued)

¹⁰⁵ The taxable wage base is increased annually by the average growth in wages, so the share of the population below the cap is expected to remain relatively stable over time. However, the share of payroll that is taxed is expected to decline even further. Under the intermediate assumptions of the 2006 Trustees Report, the percentage of earnings that is taxable is projected to decline to about 83% in 2015 and remain stable thereafter.

¹⁰⁶ Estimates of the taxable earnings base that would capture 90% of covered earnings between 2005 and 2050 are from the Social Security Administration's Office of the Actuary and were calculated using the intermediate assumptions of the 2005 Trustees Report. For example, the actuaries estimate that the 2006 wage base of \$94,200 would have needed to rise to \$164,100 to cover 90% of aggregate covered earnings.

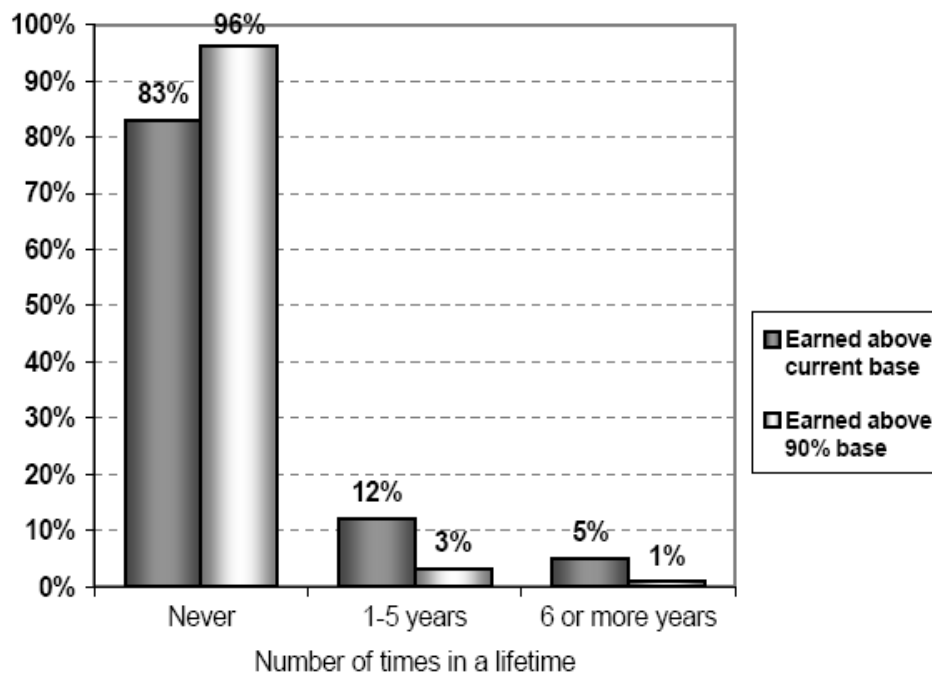
¹⁰⁷ SSA Statistical Supplement, 2005.

¹⁰⁸ The share of the population affected by this policy is influenced by the way the Dynasim model projects an individual's earnings. There is a significant amount of year-to-year variation in the projection of each individuals' earnings.

base, including the entire Dynasim population in the figures for these options would show only that the average beneficiary in each subgroup was not affected.

There are only minor differences in the distributional effects of a policy that raises the taxable earnings base to cover 90% of earnings or one that would eliminate it entirely. This is because the Dynasim model projects that roughly 1% of workers have earnings above the 90% limit each year. In other words, due to high levels of earnings inequality, roughly 1% of the population earns 10% of the earnings.¹⁰⁹ Looking over the course of one's lifetime, the model projects that less than 4% of the population would ever earn above the 90% base and nearly all of those who do would earn above the base for less than five years. Because such a small share of the population ever earns above the 90% limit, this distributional analysis will focus on eliminating the taxable wage base. The only difference between the options is that the share of individuals who have large tax and benefit changes declines if the base is capped at 90% of earnings. A complete set of distributional analysis tables for the 90% wage base option is available in CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*.¹¹⁰

Figure 18. Share of the Population with Earnings above the Taxable Wage Base over their Lifetime



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

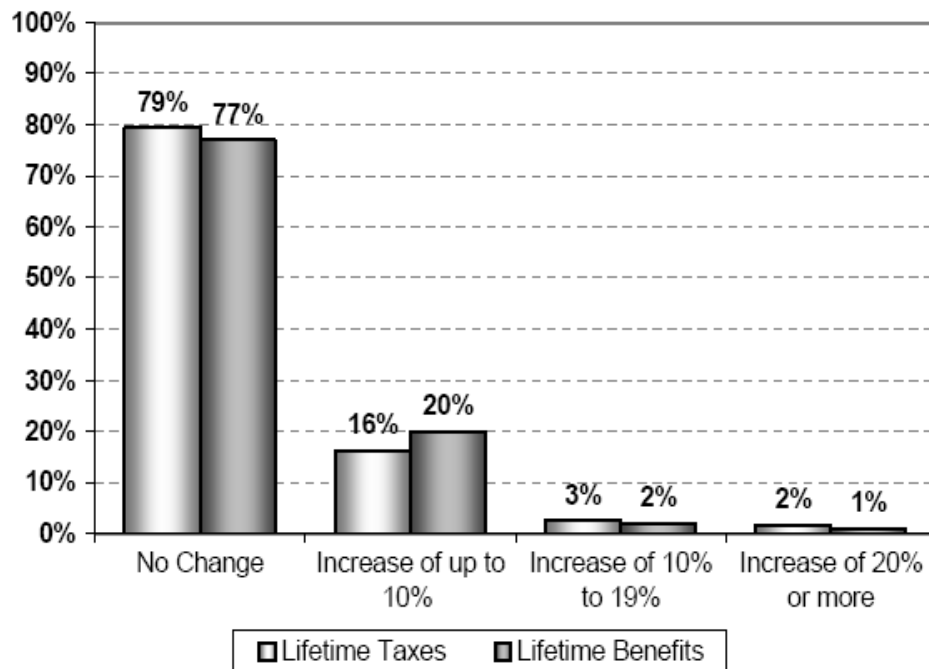
¹⁰⁹ The Dynasim model projections are consistent with current data on wage inequality. In 2004, the top 1% of earners were paid 11% of aggregate earnings (source: CRS analysis of the March 2005 Current Population Survey).

¹¹⁰ See CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*, by Laura Haltzel et al.

Eliminate the Taxable Wage Base¹¹¹

The majority of beneficiaries would pay no additional taxes compared with current law if the base were removed, as fewer than 8% of workers are projected to earn above the taxable wage base each year. Examining the impact on individuals receiving Social Security benefits in 2035, roughly one in five beneficiaries (21%) would have paid any additional taxes over their lifetime compared with current law (**Figure 19**). For most of these affected individuals, the increase would be moderate. Roughly 16% of all beneficiaries would see their lifetime tax payments increase by less than 10%. However, 3% of all beneficiaries would have tax payments increase by 10% to 19% and 2% would have tax increases of 20% or more.

Figure 19. Share of Beneficiaries in 2035 with Tax and Benefit Increases Compared with Current Law if the Taxable Earnings Base is Eliminated, by Level of Increase



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Note: Lifetime taxes are calculated as the sum of individual and employer OASDI contributions or self-employment contributions throughout the individual's entire career. Please see the section on "What Do the Figures Show?" in the report "Introduction."

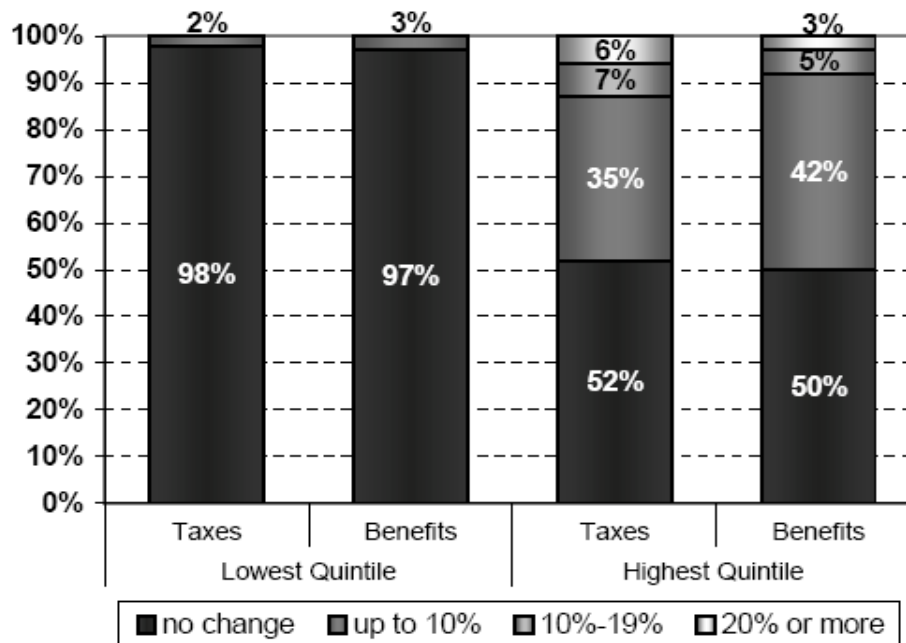
If policymakers choose to calculate benefits based on a worker's total earnings, including those above the taxable wage base, some beneficiaries would receive higher Social Security benefits. Under this option, 23% of beneficiaries in 2035 would have higher benefits than under current law. This share of beneficiaries that receive higher benefits is greater than the share of individuals that pay higher taxes because some low earners receive benefits based on their spouses' higher

¹¹¹ While this section will show the distributional impact on beneficiaries if the base is eliminated for both taxes and benefits, the tax results will be the same regardless of whether the wage base is retained for benefits.

earnings. Most beneficiaries (20%) would see their benefits increase by less than 10% relative to current law. Only 3% of beneficiaries would see their benefits increase by 10% or more.

The impact of eliminating the taxable wage base on taxes paid varies significantly by income group.¹¹² The overwhelming majority (98%) of beneficiaries in the lowest income quintile would pay no additional taxes over their lifetime (**Figure 20**). The story is different for higher income beneficiaries. Roughly one-half of those in the highest income quintile are estimated to have had tax increases over their lifetime relative to current law. While 35% of beneficiaries in the top quintile would see their lifetime taxes rise by less than 10%, some (7%) would see their taxes rise between 10% and 19% and some (6%) would see their taxes rise 20% or more.

Figure 20. Share of Beneficiaries in 2035 with Higher Payroll Taxes or Benefits Compared with Current Law if the Taxable Earnings Base is Eliminated, by Highest and Lowest Quintile



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

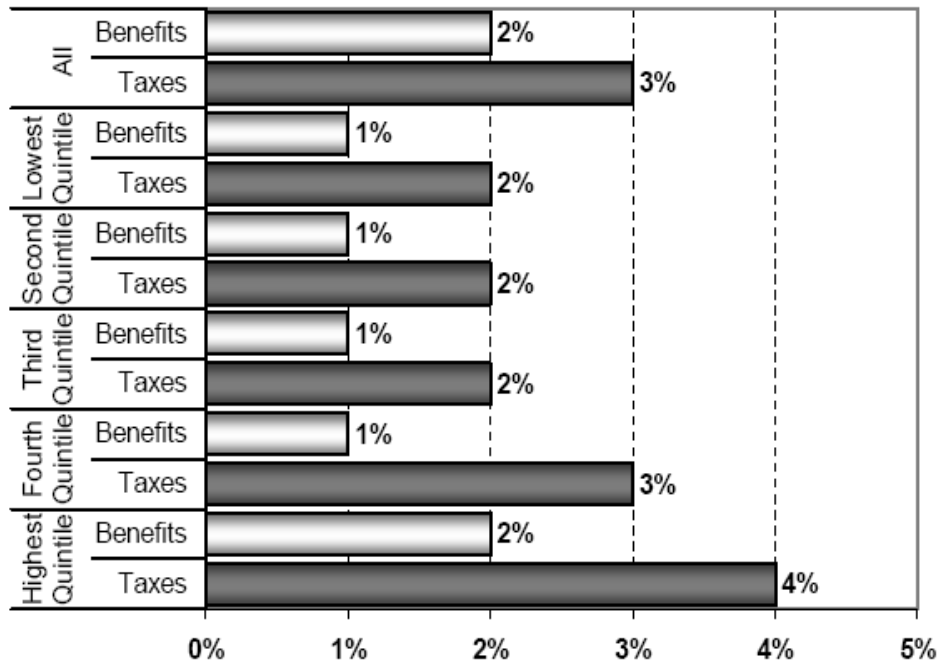
Note: Please see the section on "What Do the Figures Show?" in the report "Introduction."

Beneficiaries in the highest income groups would see the largest change in their benefits if the taxable wage base were removed. One-half of beneficiaries in the top fifth of the income distribution would have an increase in benefits relative to current law. In this highest quintile, 42% would have benefit increases of less than 10%, some (5%) would have benefit increases of 10%-19% and a few (3%) would have benefit increases of 20% or more. Only 3% of beneficiaries in the lowest income category would receive small benefit increases under this proposal.

¹¹² Note that the income groups are defined in 2035 using family income after an individual claims disability, retirement, survivor or spousal benefits. Thus, some low income beneficiaries are affected by the policy if they earned above the taxable wage base at any point in their career.

While 21% of beneficiaries in 2035 would pay some additional payroll taxes over the course of their lifetimes if the base were removed, those with higher earnings would face the largest increases. Looking *only* at those who paid higher taxes over the course of their lifetime, these beneficiaries would see their total lifetime tax payments increase by a median of 3% relative to current law (**Figure 21**). Among those who paid higher taxes under this option, beneficiaries in the bottom three quintiles would see their lifetime tax payments increase by a median of 2% while the average high-income beneficiary would see his or her lifetime tax payments increase by a median of 4%.

Figure 21. Median Percent Increase in Lifetime Tax and Benefit Payments Compared with Current Law from Eliminating the Taxable Wage Base, Among Individuals Who Contributed Additional Taxes Over their Lifetime and Received Benefits in 2035



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Notes: Since the median change for all beneficiaries would be zero, this chart shows the median change for only those individuals who paid higher taxes over their lifetime. Note that the median of the five quintiles are the 10th, 30th, 50th, 70th, and 90th deciles. Please see the section on "What Do the Figures Show?" in the report "Introduction."

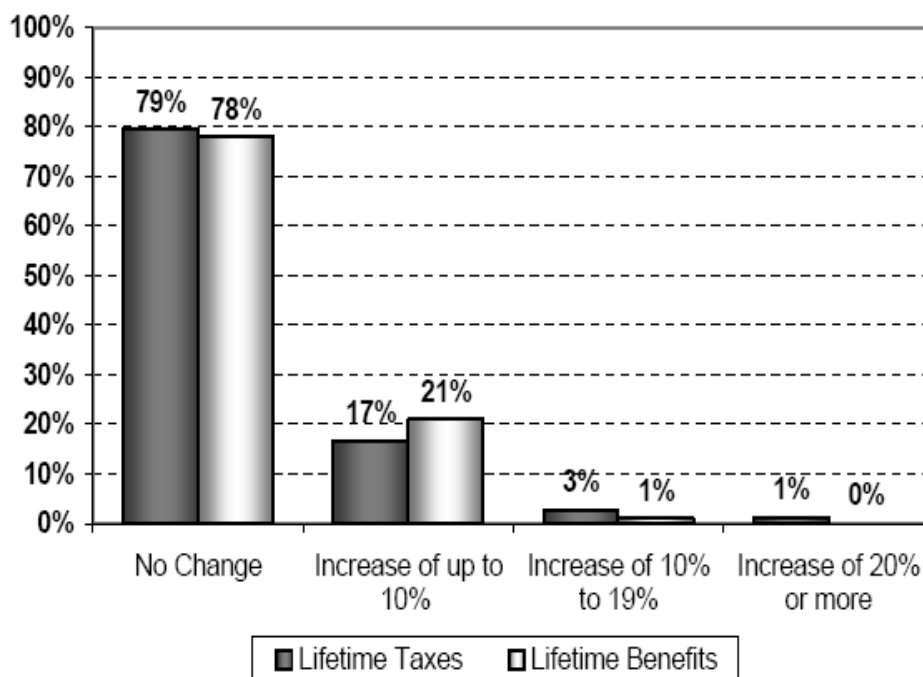
The beneficiaries in 2035 that would pay additional payroll taxes over the course of their lifetimes if the base were removed would have a median benefit increase of only 2% relative to current law. The increase in benefits would be smaller than the increase in taxes due to the progressive nature of the Social Security benefit formula. Individuals with higher incomes would receive a slightly larger benefit increase than others. Among the beneficiaries that pay higher taxes, beneficiaries in each of the lowest four income quintiles are projected to receive a median benefit increase of 1% while beneficiaries in the highest income quintile are projected to receive a median benefit increase of 2% compared with current law.

Raise Taxable Earnings Base to Cover 90% of Aggregate Earnings and Pay Higher Benefits

Raising the taxable wage base to a level that covers 90% of aggregate earnings would raise the Social Security payroll taxes of all individuals who earn above the current taxable wage base (less than 8% of workers each year). However, the majority of workers would pay no additional taxes relative to current law if the base is raised. Examining the impact on individuals receiving Social Security benefits in 2035, roughly four in five beneficiaries (79%) would not have paid any additional taxes over their lifetimes (**Figure 22**). For most individuals who do pay higher taxes, the increase would be moderate. Roughly 17% of all beneficiaries would see their lifetime tax payments increase by less than 10%, 3% would see their taxes rise between 10% and 19%, and only 1% would see their payments increase by 20% or more. As described previously, these figures are nearly identical to the estimates for eliminating the taxable wage base because only 1% of individuals earn more than the 90% base.

If policymakers choose to calculate benefits based on the higher earnings base, some beneficiaries would receive higher Social Security benefits. Under this proposal, 78% of beneficiaries would receive no increase in benefits compared with current law. The share of beneficiaries who receive higher benefits (22%) is greater than the share of individuals that pay higher taxes (20%) because some low earners receive benefits based on their spouses' higher earnings. Of the beneficiaries with an increase in their benefits, most (21% of all beneficiaries) would see their benefits increase by 10% or less while only 1% would see their benefits increase by more than 10%. Because so few individuals earn more than this increased base, these figures are only slightly lower than the estimates for eliminating the taxable wage base.

Figure 22. Share of Beneficiaries in 2035 with Tax and Benefit Increases Compared with Current Law if the Taxable Earnings Base is Raised to Cover 90% of All Earnings, by Level of Increase



Source: Congressional Research Service (CRS) calculations using the Urban Institute's Dynasim microsimulation model.

Notes: Lifetime taxes are calculated as the sum of individual and employer OASDI contributions or self-employment contributions throughout the individual's entire career. Please see the section on "What Do the Figures Show?" in the report "Introduction."

As stated earlier, the distributional effects by income quintile are comparable to those that would occur if the taxable earnings base were eliminated and so are not repeated here. However, the tables containing this information are available in CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*.¹¹³

Legislation Related to the Taxable Earnings Base

In the 108th Congress, two bills would have raised the taxable earnings base. A bill by Representatives Kolbe and Stenholm (H.R. 3821) would have gradually raised the earnings and benefit cap to \$133,200 in 2008 and then held the base equal to 87% of aggregate U.S. earnings thereafter. H.R. 5179, sponsored by Representative Obey, would have brought the percent of aggregate earnings subject to the Social Security payroll tax up to 90% by increasing the rate of growth in the Social Security taxable wage base by 2 percentage points above average wage growth for years 2006 through 2036.

¹¹³ See CRS Report RL33841, *Options to Address Social Security Solvency and Their Impact on Beneficiaries: Results from the Dynasim Microsimulation Model—Detailed Distributional Tables*, by Laura Haltzel et al.

In the 109th Congress, two bills were introduced which would raise or eliminate the taxable earnings base. A bill by Representatives Kolbe and Boyd (H.R. 440) would gradually raise the base to \$142,500 in 2010 and then hold the base equal to 87% of total payroll thereafter. A bill by Representative Wexler (H.R. 2472) would eliminate the taxable wage base but lower the tax rate on earnings above the current base from 6.2 to 3% for both employers and employees and from 12.4% to 6% for the self-employed.

None of the bills described above are comparable to the option analyzed in this report. However, the actuaries at the Social Security Administration have calculated the impact of raising the taxable wage base on the solvency of the Social Security trust funds. Under the intermediate assumptions of the 2005 Trustees Report, raising or eliminating the taxable earnings base could significantly improve the solvency of the Social Security program.¹¹⁴

- *Tax 90% of earnings and pay higher benefits.* Raising the wage base to 90% of earnings would have a net positive impact on the Social Security trust funds. This option is projected to eliminate 43% of the long-range financial shortfall and would extend the trust funds' exhaustion date from 2041 to 2044. In addition to raising the taxable wage base to tax 90% of earnings, to make Social Security solvent for the full 75-year projection period the total payroll tax rate would have to be *raised* by 1.09 percentage points (from 12.40% to 13.49%) or other policy changes would have to be made to cover this shortfall.
- *Tax all earnings and pay higher benefits.* If the earnings base was completely eliminated for both employers and employees so that all covered earnings were taxed, 95% of the projected financial shortfall in the Social Security program is projected to be eliminated. Under this scenario high earners would pay higher taxes and also receive higher benefits. However, the net benefit to the trust funds is positive. In addition to taxing all earnings, to achieve solvency for the full 75-year projection period the total payroll tax rate would have to be raised by an additional 0.1 percentage points (from 12.4% to 12.5%) or other policy changes would have to be made to cover this shortfall.
- *Tax all earnings and pay no additional benefits.* If the base was completely eliminated for both employers and employees so that all earnings were taxed, but those earnings did not count toward benefits, the Social Security program would remain solvent for the full 75-year projection period. The increased revenue would eliminate 115% of the projected shortfall and the program would have a surplus of 0.29% of wages. Under this scenario, the payroll tax rate could be immediately *lowered* from 12.40% to 12.11% and the program would remain solvent for the full 75-year projection period.

¹¹⁴ Social Security Administration, *Estimated OASDI Long-Range Financial Effects of Several Provisions Requested by the Social Security Advisory Board*, Memorandum, dated August 10, 2005, available at <http://www.ssab.gov/documents/advisoryboardmemo—2005tr—08102005.pdf>.

Appendix A. Computation of the Primary Insurance Amount (PIA) Under Current Law

The Primary Insurance Amount (PIA) is the basic Social Security monthly benefit amount payable to an individual upon entitlement to retirement benefits at the normal retirement age (i.e., the PIA does not reflect any adjustments for early or delayed retirement) or disability benefits. In addition, the PIA is the base amount used to determine monthly benefits payable to family members on the worker's record (such as a spouse or surviving spouse).

Under current law, the PIA is determined by applying a benefit formula to the worker's average lifetime covered earnings. In the first step of the benefit computation, the worker's nominal earnings (up to 2 calendar years prior to the year of eligibility—for example, earnings prior to age 60 in the case of a retirement benefit) are indexed to wage growth to reflect the change in average wages over time. (Earnings in subsequent years are counted at nominal value.) For purposes of computing a basic retirement benefit, the 35 highest years of indexed earnings are then averaged and a monthly amount is computed to determine the worker's Average Indexed Monthly Earnings (AIME). (If a worker has fewer than 35 years of covered earnings, years of "zero" earnings are counted in the computation of the AIME.)¹¹⁵ The benefit formula is then applied to the worker's AIME. The benefit formula that applied to individuals who first became eligible for retirement or disability benefits in 2006, or who died in 2006 before becoming eligible for benefits, is as follows:

- 90% of the first \$656 of AIME, *plus*
- 32% of AIME over \$656 through \$3,955, *plus*
- 15% of AIME over \$3,955

For example, the PIA for a worker who reached age 62 in 2006, based on an AIME of \$4,500, would be \$1,727.80. The PIA would be computed as follows:

- $90\% \times \$656 = \590.40 , *plus*
- $32\% \times \$3,299 = \$1,055.68$, *plus*
- $15\% \times \$545 = \81.75

PIA = \$1,727.80 (rounded to the next lower 10 cents)

The worker's PIA is based on the benefit formula that applies in the year the worker first becomes *eligible* for benefits (age 62 for retired-worker benefits, the year of disability for disabled-worker benefits, or the year of the worker's death for survivor benefits), rather than the first year of

¹¹⁵ The number of computation years used to determine the AIME varies, depending on the type of benefit (retirement, survivor or disability). The number of computation years is based on the number of "elapsed years" (i.e., the number of calendar years after 1950 or, if later, attainment of age 21) up to the year the worker attains age 62 (for retirement benefits); the year of death or, if earlier, attainment of age 62 (for survivor benefits); or the year of disability (for disability benefits) minus any "dropout years." The number of dropout years also varies, depending on the type of benefit. For purposes of retirement and survivor benefits, up to 5 dropout years apply. For purposes of disability benefits for workers disabled before age 47, 1 to 4 dropout years apply, depending on the worker's age and the number of dropout years. However, no fewer than 2 computation years may be used for disability benefit calculations.

benefit receipt. Beginning with the first year of eligibility, the PIA is increased by the annual Social Security cost-of-living adjustment (COLA) for any intervening years between eligibility and benefit receipt. For example, if an individual who first becomes eligible for retired-worker benefits at age 62 in 2006 elects to receive benefits at the normal retirement age (age 66 in 2010), the PIA effective at the normal retirement age would be the PIA calculated using the benefit formula for 2006 (shown above) adjusted annually according to the COLA effective in December 2006, December 2007, December 2008 and December 2009.

The dollar amounts that separate the three brackets of AIME in the benefit formula (\$656 and \$3,955) are referred to as bend points. Under current law, the bend points are indexed to wage growth on an annual basis to provide stable replacement rates over time for workers with similar earnings patterns. (The replacement rate is based on Social Security benefits in the first year of retirement divided by final earnings.) For example, under current law, the benefit formula is designed to provide a replacement rate of approximately 40% for average-wage earners regardless of the year of retirement.

The percentages that apply to each of the three brackets of AIME in the benefit formula (90%, 32% and 15%) are referred to as formula factors (or replacement factors). The formula factors, which are fixed under current law, are structured such that Social Security benefits replace a greater share of pre-retirement earnings for lower-wage workers compared with higher-wage workers.

Appendix B. Interaction of Spouse and Aged Survivor Benefit Rules with Policy Options

The current-law Social Security rules regarding spouses and survivors can increase the benefits of some married, widowed, and divorced beneficiaries. When these spouse and survivor rules interact with policy options that reduce Social Security benefits, they can mitigate the effect of benefit reductions, causing smaller reductions than would have been expected under the policy option.

Current Law Spouse and Survivor Rules Can Increase Social Security Benefits

The Social Security rules regarding spouses and aged survivors allow some individuals to receive a benefit when they otherwise would have received none, and allow other individuals to receive a higher benefit than they otherwise would have received.

Individuals who do not qualify for a Social Security benefit based on their own work records may qualify for a benefit based on their current or former spouses' work records. Social Security *spouse benefits* are payable to the spouse or divorced spouse of a retired or disabled worker, based on the worker's earnings record.¹¹⁶ The primary insurance amount (PIA) for a spouse beneficiary is generally 50% of his or her spouse's PIA. Social Security *survivor benefits* are payable to the survivors of a deceased worker, based on the worker's earnings record. The PIA for an aged widow or widower is 100% of his or her deceased spouse's final benefit amount.¹¹⁷

Individuals who do qualify for Social Security benefits based on their own work records may receive a *partial* spouse or survivor benefit in addition to their own worker benefit, if the amount of their spouse or survivor benefit would be greater than their worker benefit. These so-called *dually entitled* beneficiaries receive a total Social Security benefit that is the higher of the worker benefit and the spouse or survivor benefit to which they are entitled, not the sum of the two benefits.

Some individuals marry more than once throughout the course of their lives, either because they were divorced or widowed. Some of these individuals may qualify for spouse or survivor benefits based on the work records of more than one spouse.¹¹⁸ In such a case, an individual would receive the highest benefit to which he or she is entitled.

Spouse and Survivor Benefit Rules Can Mitigate Benefit Reductions Under Policy Options

When Social Security's spouse and survivor rules interact with policy options that would reduce benefits, they can mitigate the effect of benefit reductions, causing smaller reductions than would

¹¹⁶ Divorced spouses must have been married to the worker for at least 10 years to qualify for spouse or survivor benefits.

¹¹⁷ Other types of survivor benefits—those for children, mothers or fathers with a child in care, and dependent parents of Social Security beneficiaries—are not analyzed in this report.

¹¹⁸ In some cases, beneficiaries do not qualify for benefits based on a former spouse's work record if they remarry.

have been expected under the policy option. There are two mechanisms that could mitigate the effect of the policy option for a beneficiary: (1) if his or her benefit type changes under the option, or (2) if the spouse on whose work record his or her the benefit is based changes under the option.

Some individuals could change benefit types under a policy option because of the spouse and survivor rules, thus mitigating the effect of the option's benefit reduction. For example, consider a couple in which the wife receives a \$600 retired worker benefit and the husband receives a \$1,100 retired worker benefit under current law. The woman would not qualify for a spouse benefit under current law, since her worker benefit (\$600) is greater than 50% of her husband's primary insurance amount (assuming he is not subject to any reductions or credits, this amount would be \$550). If the wife is younger than the husband, she would be subject to a greater benefit reduction in 2035 under most of the policy options analyzed in this report. Continuing the example above, let's assume under a policy option that the wife's benefit were reduced by \$100 (making her retired worker benefit \$500) and the husband's benefit is reduced by \$50 (making his retired worker benefit \$1,050). As a result, the wife would become dually entitled to receive a partial spouse benefit in addition to her full worker benefit. Her total benefit amount under the option would be equal to 50% of her husband's PIA, or \$525 in this case (i.e., \$500 in worker benefits and \$25 in spouse benefits). Thus, the dual entitlement rule leads the wife to receive a \$75 benefit reduction rather than a \$100 reduction.

Some individuals could receive a spouse or survivor benefit based on a different marriage than under current law as a result of a policy change, thus mitigating the effect of a benefit reduction that would otherwise result from the policy option. For example, consider a woman who divorced after 15 years of marriage, then remarried. Under current law, she receives a spouse benefit of \$600. Her spouse benefit is based on her current husband's PIA of \$1,200; her former husband's PIA is \$1,180. Under the policy option, her current husband's PIA is reduced by \$100 (to \$1,100), and her former husband's PIA remains at \$1,180 since he retired before the policy option was implemented. Under the policy option, she would receive a divorced spouse benefit based on her *former* husband's work record, rather than her current husband's work record, since the benefit she would receive based on her former husband's record (\$590) would be greater than the benefit she would receive based on her current husband's record (\$550). Thus, the rule that allows beneficiaries to receive the highest spouse or survivor benefit to which they are entitled means that the wife in this example receives a \$10 benefit reduction rather than a \$50 benefit reduction.

It is important to note that in either scenario—changing benefit type or changing the spouse on which the benefit is based—the affected beneficiary would receive a higher-than-expected benefit under the option due to Social Security's spouse and survivor rules. The reason for this effect is that the Social Security rules always allow beneficiaries to receive a total benefit that is equal to the highest of the various benefits to which they may be entitled.

Appendix C. Interaction of the Retirement Earnings Test with Policy Options

The current-law Retirement Earnings Test (RET) can affect benefits received before and after the full retirement age (FRA). When the RET provision interacts with policy options that reduce Social Security benefits, it can magnify the size of the benefit reduction received before the FRA and reduce the size of the benefit reduction received after the FRA relative to what is expected under the policy option, or even lead to apparent benefit increases relative to current law.

Current-Law RET Reduces Benefits Received *Prior* to the Full Retirement Age

The RET is a current-law provision that reduces the Social Security benefits paid to some individuals who work before their full retirement age (FRA). Specifically, the RET applies to non-DI beneficiaries below the FRA who have earnings from employment in excess of certain thresholds.¹¹⁹ Generally, for workers who fall under the full retirement age for the entire year, the threshold was \$12,480 in 2006. For every two dollars in earnings over this threshold, the worker's Social Security benefit is reduced by one dollar. In the year that the worker attains the full retirement age, a higher threshold of \$33,240 applied in 2006 for those months worked prior to the full retirement age. For every three dollars in earnings over this threshold, the worker's Social Security benefit is reduced by one dollar. These thresholds rise annually with increases in the national average wage. Monthly benefits are eliminated or reduced until all excess earnings have been offset. The RET does not apply to workers after they attain the full retirement age.

Table C-1. Retirement Earnings Test Application Rules

Age of Social Security Beneficiary	Threshold in 2006	Benefit Reduction
Under FRA Entire Year	\$12,480	\$1 for every \$2 of excess earnings
In Year of Attaining FRA, for Months Prior to the FRA	\$33,240	\$1 for every \$3 of excess earnings
Over the FRA	No threshold	No reduction

For example, Joe is 62 and will not reach the full retirement age this year. Thus, Joe could have earned up to \$12,480 in 2006 without penalty. Joe earns \$30,000 this year, so his Social Security benefit would be reduced under the RET. For every two dollars of earnings over the \$12,480 threshold, his benefit would be reduced by one dollar. Joe had 'excess' earnings of \$17,520 in 2006 (\$30,000 - \$12,480). Thus, the reduction to his Social Security benefit was \$8,760 (\$17,520 x 0.5) in 2006. Joe's current-law Social Security benefit is \$1,500 per month (\$18,000 per year) before the RET is applied. Therefore, Joe would lose his Social Security benefit payments for five full months and would lose a portion of his benefit for a sixth month (\$8,760/\$1,500) because of

¹¹⁹ The RET does not apply to disabled workers receiving Disability Insurance (DI) benefits because these individuals are subject to their own earnings test, the Substantial Gainful Activity (SGA) test. See CRS Report 98-789, *Social Security: Proposed Changes to the Earnings Test*, by Debra B. Whitman for additional information on the RET.

his excess earnings under the RET. After application of the RET, Joe's annual Social Security benefit would be \$9,240 (\$18,000 - \$8,760).

Current-Law RET Increases Benefits Received *After* the Full Retirement Age

Those individuals who face benefit reductions due to the RET have their benefits increased at the full retirement age. Under current law, workers are only subject to the RET if they have excess earnings, receive non-DI benefits and have not yet reached the full retirement age. When individuals receive non-DI benefits prior to the full retirement age, they are subject to an actuarial benefit reduction, the size of which is dependent on the number of months of benefits the individual is projected to receive benefits before the full retirement age. The greater the number of months of benefit receipt prior to the full retirement age, the greater the actuarial reduction. Those retiring at the earliest eligibility age (60 for survivors benefits, 62 for retirement benefits) face the largest reduction. For every month that an individual's early retirement or early survivor benefit is eliminated as a result of the RET, the actuarial reduction that he or she is subject to goes down as compensation for these lost benefits. When the individual reaches the full retirement age, the actuarial reduction is lowered and the retirement or survivor benefit is adjusted upward to account for the lost months of benefits under the RET.

Following on the previous example, if Joe takes Social Security benefits at the earliest eligibility age, 62, his benefits will be 25% lower than if he retired at his FRA of 66.¹²⁰ If Joe's full retirement benefit (PIA) was \$2,000 per month, his monthly benefit after the early retirement reduction would be \$1,500 (\$2,000 x 0.75). However, if Joe continues working, as described in the previous example, he would lose benefits for over five months out of the year due to the RET. If Joe worked intermittently between age 62 and 66 and the RET ultimately eliminated Joe's benefit for a total of 12 months over this period, essentially, Joe delayed taking up Social Security benefits for an additional year. Therefore, his actuarial reduction for early retirement should be adjusted to reflect his receipt of Social Security benefits for only 36 months prior to his full retirement age instead of 48. Joe's actuarial reduction would be reduced from -25% to -20% at the full retirement age of 66. Thus, at age 66 the RET would increase Joe's monthly benefit from \$1,500 to \$1,600 (\$2,000 x .80) under current-law, about a 7% increase. On an annual basis, the RET would increase Joe's benefit from \$18,000 per year to \$19,200 per year.

The RET Can Magnify Percent Benefit Reductions Experienced Under a Policy Option *Prior* to the Full Retirement Age

The RET can magnify the effect of policy options that reduce benefits relative to current law. Those affected by the RET appear to receive larger benefit reductions than what could be attributed to the policy change alone. The RET calculation is based on a worker's excess earnings. Since earnings are not affected by the policy option, the RET reduction is the same dollar amount under both current law and the policy option. If a policy option reduces Social Security benefits, this smaller Social Security benefit is being reduced by the same dollar amount

¹²⁰ The benefit reduction of 25% is calculated based on the number of months Joe retires before his full retirement age. By retiring at age 62, Joe will collect Social Security benefits for 48 months before his full retirement age of 66. For information on how the actuarial reduction is determined, see Table 2.A17.1 in the Social Security Administration's Annual Statistical Supplement to the Social Security Bulletin, 2005 at <http://www.ssa.gov/policy/docs/statcomps/supplement/2005/2a8-2a19.html#table2.a17.1>.

under the RET as under current law. Therefore, the RET creates a larger percent reduction in benefits than is expected under the policy change.

Continuing the current-law example, assume that a policy option reduces Joe's initial benefit by 10% (prior to the application of the RET). Thus, his annual benefit prior to the RET is \$18,000 and the policy option reduces his benefit by 10% (\$1,800) to \$16,200. Since Joe's earnings don't change, and he still has excess earnings of \$17,520 in 2006, the RET still reduces his annual Social Security benefit by \$8,760. So, Joe's final annual benefit (after the policy option and the RET) is \$7,440 (\$16,200 - \$8,760), which is approximately a 20% decrease (\$7,440/\$9,240) from the current law annual benefit of \$9,240 (after the RET). Thus, the interaction of the policy option with the RET program rules is responsible for the larger than expected reduction in Joe's benefit.

The RET Can Mitigate or Eliminate the Benefit Reduction Under a Policy Option After the Full Retirement Age

Some policy options might reduce the Social Security benefit to a size where the fixed dollar amount of the RET fully eliminates the Social Security benefit for a greater number of months than under current law. Because of the interaction of the policy option with the RET and the actuarial benefit reduction, the ultimate consequence of this benefit elimination is a later increase in benefits relative to current law. When a policy option reduces the size of the Social Security benefit, the unchanging dollar amount of the RET requires more months of benefits to be eliminated than under current law. Thus, at the full retirement age, when the benefits are adjusted upward for this loss, they are increased relative to current law, making some individuals receive benefit *increases* that would seem to be counterintuitive under a policy change that reduces benefits.

For example, if Joe's benefit were reduced relative to current law, let's say that the RET would eliminate his now smaller Social Security benefit for 16 months instead of 12 months during the period he worked between age 62 and 66. Joe's actuarial reduction would be adjusted to reflect his receipt of Social Security benefits for only 32 months prior to his full retirement age instead of 36 months under current law (after the RET). Joe's actuarial reduction would be reduced from -20% to approximately -16.7%. Thus, under the policy option, at age 66 Joe's benefit increases from \$1,600 (PIA of \$2,000 x 0.80) under current law to \$1,666 (PIA of \$2,000 x .83) under the policy option, a benefit increase of 4%.

In summary, the RET can either magnify the size of a benefit reduction under a policy change or appear to create a benefit increase relative to current law, depending on whether an individual is below or above the full retirement age.

Appendix D. Technical Description of the Progressive Price Indexing Option

Progressive Price Indexing

The progressive price indexing policy option would constrain the growth of initial benefits for future retirees by using a combination of wage indexing and price indexing in the benefit formula to apply differing degrees of benefit reduction based on the worker's career-average level of earnings. The following section explains the mechanics of the progressive price indexing option examined in this report.¹²¹ The basic steps used to calculate initial benefits for future retirees under the progressive price indexing option include:

Step 1. Create a new bend point in the benefit formula

The benefits of low-wage workers would be preserved by establishing a new bend point in the PIA formula, below which initial benefits would continue to be fully wage-indexed. For the option analyzed in this report, the new bend point would be established at the 30th percentile of earnings. This means that workers with career-average earnings in the lowest 30% of the earnings distribution would experience no change in benefits relative to current law.

The new bend point would fall between the first and second bend points under current law. The replacement factors for the now four brackets of Average Indexed Monthly Earnings in the benefit formula would be set initially at 90%, 32%, 32% and 15%. The new bend point would increase each year after 2013 by the rate of growth of the national average wage, just as the two current bend points are wage-indexed. All workers with career-average earnings below this new bend point would continue to have their initial benefits fully wage-indexed. Workers with career-average earnings above the new bend point would have their initial benefits reduced because the third and fourth replacement factors (32% and 15%) would be adjusted downward each year (described in Step 3 below).

Step 2. Calculate a hypothetical, fully price-indexed PIA

For those who become eligible for retired-worker benefits in 2013 and each year thereafter, calculate a hypothetical fully price-indexed PIA for a worker who had maximum earnings over his/her career and the percentage reduction in benefits between this hypothetical PIA and the current law PIA. SSA would compute the percentage benefit reduction that would apply for a career high-wage earner¹²² if all three of the current-law PIA factors (90%, 32%, and 15%) were fully price-indexed.

¹²¹ These steps follow those described in a memorandum from Stephen Goss, Chief Actuary of the Social Security Administration to Robert Pozen dated February 10, 2005. See http://www.ssa.gov/OACT/solvency/RPozen_20050210.pdf.

¹²² A career high-wage earner is someone who earned at or above the taxable wage base for at least 35 years in their entire career.

For example, if the benefit for a career high-wage earner retiring at the full retirement age in a future year were determined to be, say, \$2,800 per month and the percentage changes in prices and wages since 2011 were 2.8% and 3.9%, respectively, the benefit for a high-wage earner would be recalculated with each of the three PIA factors multiplied by the ratio $1.028/1.039$ or $.989$.¹²³ Thus, in this example, the benefit of a high-wage earner under full price indexing would be reduced by 1.1% in 2013, the first year that price indexing would be in effect. After ten years—assuming that prices and wages continued to grow annually by 2.8% and 3.9%—the PIA factors would be multiplied by $1.028^{10}/1.039^{10} = .899$, representing a benefit reduction of 10.1%.

Step 3. Make downward adjustments to the third and fourth replacement factors in the benefit formula

The third step of the process would be to calculate the percentage reduction only to the PIA factors *above* the new bend point (32% and 15%) that would result in the same benefit reduction for career-long maximum-wage earners (those always at or above the annual maximum taxable wage) as would have applied to these earners if price indexing had been applied to all workers. This would reduce benefits for career-long maximum-wage earners by the same percentage as they would have been reduced if the benefit formula were fully price-indexed for workers at all earnings levels. Benefits would be reduced by a smaller percentage for workers with career-long average wages and not at all for workers with average wages that fall in the lowest 30% of the earnings distribution.

¹²³ Earnings are indexed to the average wage level two years prior to the worker's first year of eligibility because there is a two-year lag time associated with the release of official wage data for a given year. Thus, if the first year the policy applies is 2013, it would be necessary to obtain the official wage data from 2011.

Appendix E. Background on the Urban Institute's Dynasim Microsimulation Model

What is Dynasim?

The Urban Institute's Dynamic Simulation of Income Model (Dynasim) is a computer model that uses survey data to project demographic changes, retirement income, and Social Security benefits. It was created by the Urban Institute and was purchased by the Congressional Research Service. Dynasim can be used to analyze the consequences of retirement and aging policy issues on individual and family income and benefits. One of the major advantages of using the Dynasim model is the ability to analyze the distributional effects of Social Security proposals. For example, Dynasim can be used to (1) analyze the difference in benefit levels between a particular Social Security reform proposal and current law; (2) model the combined effects of multiple and complex policy changes on individual and family benefits and total income; (3) model the effect of a change in Social Security policy on an individual's eligibility for other means-tested federal programs (e.g. SSI). The effect on individuals and families can be broken down along multiple demographic and economic lines, such as gender, educational attainment, marital status, race, and wealth.

How Does Dynasim Work?

Through statistical adjustments of the data sources listed below, Dynasim projects the major pillars of retirement income. Starting with a representative sample of individuals and nuclear families, the model "ages" the data year by year from 1993 to 2050. Characteristics such as an individual's year of birth, educational attainment, marital status, and race are used to predict future values of variables such as earnings, marital changes, and wealth. For each year, Dynasim simulates such demographic events as births, deaths, marriages and divorces, and such economic events as labor force participation, earnings, hours of work, disability onset, and retirement.

The large amount of demographic and income information makes Dynasim particularly suitable to analyze the distributional effects of various Social Security reform proposals and other issues relating to the aged population. For example, retired worker Social Security benefits are based on 35 years of a worker's earning history. Having a tool, such as Dynasim, that contains an individual's earning history as well as the individual's traits over his/her entire career is essential to modeling Social Security reforms. One such policy option that requires 40 years of a worker's earning history is to increase the number of computation years from 35 to 40. In addition to modeling provisions that require long work histories, we can analyze how benefits change due to changes in life events (such as a marital status change or the death of a spouse) over the span of the individual's lifetime. At the end of the simulation process, we have detailed information on the lifetimes of multiple individuals, with all of the information needed to calculate Social Security benefits and total incomes. In addition to workers' earning histories, the Dynasim model includes additional retirement income projections useful for analyzing policy options. These projections include but are not limited to: Social Security coverage, eligibility and benefit levels, pension coverage and participation, income from assets, and Supplemental Security Income (SSI).

What Are the Underlying Data?

The Dynasim model was created using a complex combination of various data resources. The base population is composed of households from the 1990 through 1993 panels of the Survey of Income and Program Participation (SIPP). This sample consists of more than 100,000 people and 44,000 families and is limited to individuals who answered questions regarding assets and pensions.¹²⁴ Annual earnings are created from a mixture of historical and projected data. Earnings histories are calculated for SIPP respondents by matching individuals from the SIPP to individuals interviewed in the Panel Study of Income Dynamics (PSID) and to individuals interviewed in the 1972 Current Population Survey (CPS). The 1972 CPS is a unique dataset because it is matched to Social Security Administrative records. The 1972 CPS is matched to the Social Security Administration's Summary of Earnings Records and is used to provide SIPP respondents with earnings between the years 1951 and 1967. The PSID also collects annual earnings information and provides SIPP respondents with earnings between the years 1968 and 1992.

Once earnings are imputed for the years 1968 through 1992, earnings are then projected for the years 1993 through 2050. Dynasim uses information from the Panel Study of Income Dynamics and the National Longitudinal Survey of Youth to project individual earnings from 1993 through 2050 using a series of statistical regression equations. The earnings are projected in five steps. First, hourly wages are estimated using a random-effects model. Second, results from the hourly wage model are used to calculate predicted wages for all individuals in the PSID. Third, the number of annual hours worked is predicted using a tobit model that includes the predicted wage results from the previous regression. In the fourth step, labor force participation is estimated using a random-effect probit model. Finally, the labor force participation rates are adjusted to reflect projected employment rates from the OASDI Trustees' Report by age and gender.

The model utilizes survey data to estimate population growth, family formation, education and health, earnings, employee benefits, asset accumulation, pension and Social Security benefits, and payroll taxes. Some of the survey data used to estimate these processes include the Survey of Income and Program Participation, the Panel Study of Income Dynamics, the Current Population Survey, the Health and Retirement Survey, the National Longitudinal Mortality Study, the National Longitudinal Survey of Youth, estimates from the Social Security Administration's Office of the Chief Actuary, Vital Statistics, the Pension Simulation Model from the Policy Simulation Group, and the Pension Insurance Modeling System from the Pension Benefit Guaranty Corporation. All of these data sources are used to validate and readjust the underlying data for the Dynasim model as necessary.

What Do I Need to Know When Interpreting Dynasim Results?

Despite the many advantages of using a microsimulation model, such as Dynasim, one must keep in mind the caveats that are common to the use of microsimulation models, in general. Such caveats include, but are not limited to the following:

1. Microsimulation models require the use of a large number of assumptions. For example, Dynasim utilizes assumptions from the Social Security Administration's Office of the Chief Actuary (OCACT) to determine future fertility and mortality patterns and to project

¹²⁴ The questions regarding assets and pensions can be found in the SIPP long asset/pension topical module wave.

employment rates and wage growth. Individuals who believe that OCACT's fertility and mortality assumptions are too optimistic or pessimistic will also have the same views of Dynasim's fertility and mortality assumptions. In addition, Dynasim models mortality using an individual's age, race/ethnicity, marital status, education, disability status and work history. There may be other variables that affect mortality that are not used in this model.

2. Like all projections, historical information is used to calculate future information for individuals such as future earnings, future marital status changes, future pensions, etc. There may be historical information, however, that will not provide good estimates of future values. For example, 40 years ago, it could not have been foreseen how technological advancements would have altered mortality and earnings. Similarly, future technology and medical advancements will have an effect on the population that can not currently be predicted. A model, such as Dynasim, would not be able to factor in these kinds of advancements unless they are already, somehow, accounted for in historical information. Put another way, the model assumes that the future will resemble the past. The model often uses a variety of techniques (e.g., cohort effects) to place heavier weight on more recent experience than on less recent experience. The model projects social and economic change mainly through change in the composition of the population.
3. Microsimulation models require many assumptions and utilize many specific mathematical equations. Therefore, care should be taken when interpreting results. For example, because of their detailed assumptions, microsimulation models better represent relative changes in benefits rather than exact benefit levels. All microsimulation models are estimates of what a given population will look like in the future. Because they are estimates, all microsimulation models contain some level of error. By analyzing relative differences, rather than point estimates such as average benefits, some of the error is controlled for because the underlying error will be the same under both options. Thus, microsimulation models will be more accurate in stating that "Plan A is estimated to result in a 23% increase in benefits over current law" than stating that "Individuals, under Plan A, receive a monthly benefit of \$900" because the error found in microsimulation models is difficult to quantify, but can be mitigated by comparing plans across the same population and, in essence, holding the error constant.

In addition to the caveats associated with microsimulation models, there are caveats that are specific to the Dynasim model. For example:

1. Dynasim does not model the "old law" Social Security benefit rules in place prior to 1979. Therefore, the benefits for the oldest individuals may not precisely reflect the level of benefits that they actually received.
2. Dynasim does not include behavioral changes resulting from the modification of the Social Security benefit and tax structures. Thus, changes to Social Security's tax or benefit structure will not automatically alter an individual's work patterns or retirement decision.
3. Dynasim does not include macroeconomic feedbacks. A change in the Social Security program can affect other segments of the economy. For example, a benefit cut could have effects on the labor force participation and the savings rate. These kinds of macroeconomic effects cannot automatically be modeled using the Dynasim model. Thus, second order microeconomic effects such as the effect of the savings rate on the interest rate earned by individual accounts cannot be modeled.

4. This version of Dynasim does not currently include an income tax module. Because Social Security benefits may be subject to income taxation, reform options that alter the level of Social Security benefits can also alter the amount of income tax paid by individuals. Although *income* taxes cannot be modeled, the amount of Social security *payroll* taxes paid can easily be calculated from an individual's earnings.
5. Dynasim is not a Social Security actuarial model and thus cannot estimate the solvency effect of a proposed policy change. The Dynasim model does not contain all of the information required to produce solvency estimates. For example, Dynasim does not calculate children's benefits and so a complete account of benefit payments cannot be calculated. In addition, Dynasim simulates the population between the years 1993 and 2050. The benefits received by individuals outside of this yearly range would not be included in the calculations. For these same reasons, long-term cost estimates cannot be calculated.
6. Dynasim incorporates differences in processes on the basis of race/ethnicity where the data suggest that such differences are significant. The literature is not always definitive on the magnitude of differences by race, and measurement issues can complicate estimation of such effects. We thus suggest conservative interpretation of differences by race and Hispanicity.

Despite the caveats related to microeconomic models and specifically to Dynasim, the Urban Institute's Dynamic Simulation Model is an extremely useful tool for analyzing the effects of Social Security reform proposals and other topics related to the aged. The wealth of demographic and economic information found in the Dynasim model enables CRS to provide Members of Congress with in-depth analysis regarding the distributional effects of reform proposals that would not be possible without the use of a microsimulation model.

Appendix F. Glossary

Actuarially Fair	In the context of Social Security, holding constant the value of lifetime Social Security benefits for a person of average <i>life expectancy</i> , regardless of when he or she takes up benefits. For example, the <i>early retirement reduction</i> and <i>delayed retirement credit</i> were intended to make lifetime Social Security benefits equal in actuarial terms regardless of when beneficiaries began to collect benefits.
Adequacy	In the context of Social Security, the goal of providing some basic level of income to beneficiaries. Measures of benefit adequacy include poverty rates and replacement rates.
Average Indexed Monthly Earnings (AIME)	The average monthly amount of a worker's <i>taxable earnings</i> , which is <i>wage indexed</i> (or adjusted to reflect increasing wages) and used to determine the <i>primary insurance amount (PIA)</i> when a worker applies for Social Security benefits. In the average indexed monthly earnings (AIME) calculation for a retired worker, the highest 35 years of taxable earnings are wage indexed, averaged, and divided by 12. Fewer years of earnings may be used to calculate the AIMEs of workers who die or become <i>disabled</i> .
Average Wage Index (AWI)	The average amount of total national wages for each year after 1950, as measured by annual wage data tabulated by the Social Security Administration (SSA). The Average Wage Index (AWI) includes earnings that are not <i>covered</i> and/or <i>taxable</i> by Social Security. The AWI is used for <i>wage indexing</i> values in the Social Security program.
Baseline	In the context of this report, current law Social Security benefits and payroll taxes, against which Social Security benefits and payroll taxes under various alternative policies are compared. Also see <i>payable baseline</i> and <i>scheduled baseline</i> .
Basic Benefit Amount	See <i>primary insurance amount (PIA)</i> .
Basic Benefit Formula	See <i>primary insurance amount (PIA) formula</i> .
Bend Points	The dollar amounts that define the brackets in the <i>primary insurance amount (PIA)</i> formula used to calculate basic Social Security benefits. The bend points are <i>wage indexed</i> , or adjusted annually to reflect increasing wages. In 2006, the bend points are \$656 and \$3,955. The use of bend points in the Social Security benefit formula creates a <i>progressive</i> benefit structure, where lower earners receive proportionately higher benefits, relative to <i>covered earnings</i> , than do higher earners.
Cohort	A group of individuals sharing a particular characteristic and studied over time. For example, a birth cohort is a group of individuals born in the same year or period of time.
Computation Years	The years of earnings used to calculate a worker's <i>average indexed monthly earnings (AIME)</i> in the Social Security benefit formula. For retirement benefits, the highest 35 years of earnings are used. For disability and survivor benefits, the number of computation years depends on the age when the wage earner became <i>disabled</i> or died; the number of computation years varies from 2 to 35.
Consumer Price Index (CPI)	An official measure of inflation (i.e., the change over time in prices) calculated by the U.S. Department of Labor. The Social Security program uses the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) to calculate annual <i>cost-of-living adjustments (COLA)</i> to benefits.
Cost-of-Living Adjustment (COLA)	The annual increase in Social Security benefits reflecting the increase in the cost of living (i.e., <i>inflation</i>), as measured by the <i>Consumer Price Index (CPI-W)</i> . The cost-of-living adjustment (COLA) is effective in December of each year and is calculated as the change in the CPI-W from the third calendar quarter of the prior year to the third calendar quarter of the current year. If the CPI-W increases during this period, Social Security benefits for the next year increase proportionately. If the CPI-W decreases, Social Security benefits stay the same.
Contribution and Benefit Base	See <i>taxable earnings base</i> .

Covered Earnings	Earnings from a job which requires contributions to the Social Security program. (See <i>covered worker</i> for more information.) All covered earnings below the taxable wage base—that is, <i>taxable earnings</i> —are subject to Social Security <i>payroll taxes</i> . Covered earnings above the taxable wage base are exempt from the Social Security payroll tax.
Covered Worker	A worker who is employed in a job at which he or she contributes a portion of earnings to Social Security, or a worker who is self-employed. Workers not covered by Social Security are either covered by a similar eligible contributory system offered by their employers outside of Social Security, do not have high enough earnings for mandatory participation, or have another special exemption. (About 96% of all workers are covered by Social Security.)
Credits	To be <i>insured</i> for retired <i>worker benefits</i> , an individual must accumulate at least 40 credits in the Social Security system, which is equivalent to at least 10 years of covered employment. In 2006, a worker received one credit (up to a total of four per year) for each \$970 in <i>covered earnings</i> . Fewer credits may be required in some survivor and disability cases; in these cases, benefits may be granted with as few as six credits. The amount of earnings required for a credit is <i>wage indexed</i> .
Delayed Retirement Credit (DRC)	An increase to the <i>primary insurance amount (PIA)</i> if a beneficiary delays claiming Social Security benefits beyond his or her <i>full retirement age (FRA)</i> . The amount of the increase varies depending on the beneficiary's date of birth and how long a beneficiary delays benefit take-up beyond his or her FRA. However, the increase stops when a person reaches age 70, even if he or she continues to delay taking up benefits.
Disabled	For Social Security purposes, a person who is unable to work because of a physical or mental impairment that can be expected to result in death or to last for a continuous period of at least one year. Disabled individuals under the age of 62 may qualify for Social Security disability benefits (after which they qualify for retirement benefits). No benefits are payable for short-term disability or partial disability.
Distributional Analysis	A method of analyzing how the costs and benefits of a program or a policy option are distributed among different subgroups (e.g., <i>birth cohort</i> or income level).
Dually Entitled Beneficiaries	Workers who qualify for Social Security benefits based on their own work records (i.e., <i>worker benefits</i>) as well as benefits based on their spouses' work records (i.e., <i>spouse benefits</i> or <i>survivor benefits</i>). Dually entitled beneficiaries receive a total Social Security benefit that is the higher of the worker benefit and the spouse/survivor benefit to which they are entitled, not the sum of the two benefits.
Early Retirement Age	The age at which individuals qualify for reduced Social Security retired worker benefits if they choose to collect benefits before the <i>full retirement age (FRA)</i> . The early retirement age is 62. Individuals who begin to receive retired worker benefits early will be subject to the <i>early retirement reduction</i> . (Also called the early eligibility age.)
Early Retirement Reduction	The amount which a person's monthly Social Security benefit is permanently reduced for taking up retirement benefits before the <i>full retirement age (FRA)</i> . The amount of the reduction varies depending on the beneficiary's date of birth and how long before his or her FRA that he or she takes up benefits. The maximum amount of the reduction ranges from 20% to 30%, depending on the year in which the worker was born (because of the increase in the FRA). The early retirement reduction is intended to be <i>actuarially fair</i> .
Earnings	Wages or self-employment income. Also see <i>covered earnings</i> and <i>taxable earnings</i> .
Eligibility	To be eligible for Social Security benefits, a worker (or his or her family members) must be <i>insured</i> and must meet age, disability status, family relationship, and/or other criteria established by law.
Entitlement	Any federal program—including Social Security—that legally requires payments to any individual who meets the <i>eligibility</i> criteria established by law. (To be entitled to Social Security benefits, an individual must meet eligibility criteria and file an application for benefits.) Generally, entitlement programs are not subject to the annual appropriations process.

FICA (Federal Insurance Contributions Act) Taxes	See <i>payroll taxes</i> .
Full Retirement Age (FRA)	The age at which an individual may first become entitled to unreduced Social Security retirement benefits. The full retirement age (FRA) was age 65 for most of Social Security's history, and is now gradually increasing to age 67. In 2006, the FRA was 65 years and 6 months. (Also called the normal retirement age.)
Hold Harmless	In the context of Social Security, a group of beneficiaries is held harmless if benefit cuts and/or tax increases are not applied to that group.
Income	In the context of this report, Dynasim projections of total income in the year 2035, including Social Security benefits, defined-benefit pension benefits, income from retirement accounts, earnings, SSI, and the annuitized value of financial assets. Individuals are the unit of observation, but income estimates include income of the spouse, if the individual is married.
Inflation (Prices)	A rate of increase in the general price level of all goods and services. The official measure of inflation in the United States is the <i>Consumer Price Index</i> .
Insolvency	In the context of Social Security, the inability of the trust funds to pay all current expenses out of current tax income and accumulated trust fund assets. Insolvency would mean that Social Security's trust funds were unable to pay full benefits on time. (Insolvency would not mean that Social Security would be completely broke and unable to pay any benefits.)
Insured	In the context of Social Security, having enough <i>credits</i> to meet eligibility requirements for retired or <i>disabled</i> worker benefits, or to permit the worker's spouse and children or survivors to establish eligibility for benefits in the event of the worker's retirement, disability, or death.
Intermediate Assumptions	The Social Security Administration actuaries' "best estimate" of future demographic and economic trends. The actuaries also produce high cost (pessimistic) assumptions and low cost (optimistic) assumptions. These assumptions are published annually in the Social Security Trustees Report. This report uses the Trustees' intermediate assumptions.
Life Expectancy	An estimate of the average remaining number of years expected prior to death for a given cohort. In the context of Social Security, life expectancy at age 65 is most commonly used.
Long Range	In the context of Social Security, the next 75 years. Long-range actuarial estimates are made for this period because it is approximately the maximum remaining lifetime of workers currently covered by Social Security. The annual Social Security Trustees Report includes long-range projections of Social Security's financial status. (See also <i>short range</i> .)
Mean	The mean is the average value in a data set. It is determined by adding all the values and dividing the sum by the number of values in the data set. In this report, the <i>median</i> is generally used instead of the mean.
Median	The middle number in a series of numbers arranged from least to greatest. Half the data values are above the median, and half are below. The value of a median is not affected by a few extremely high or extremely low values, as a <i>mean</i> would be.
Microsimulation Model	In the context of policy analysis, a computer model that simulates how a government program would operate under policy changes and how participants would be affected. For more information on the Dynasim microsimulation model used in this report, please see Appendix E .
Nominal Dollars	The face value of an amount of money during a given year, using the prices prevailing during that year. Nominal dollars are not adjusted for <i>inflation</i> .
Normal Retirement Age (NRA)	See <i>full retirement age (FRA)</i> .

Payable Baseline	In the context of Social Security, a <i>baseline</i> that includes benefits payable with current tax income and accumulated trust fund assets, even if those benefits are less than those which would be paid according to the formula set forth in the law. Payable benefits would be less than scheduled benefits in the case of Social Security <i>insolvency</i> . (See also <i>scheduled benefits</i> .)
Payroll Tax	In the context of Social Security, a tax levied on all <i>covered earnings</i> , up to the <i>contribution wage base</i> in a given year. The Social Security payroll tax is paid in equal parts by employers and employees. Currently the Social Security payroll tax rate is 12.4% (of which 6.2% is paid by each employee and employer). Payroll taxes are also known as FICA (Federal Insurance Contributions Act) or SECA (Self-Employment Contributions Act) taxes. FICA and SECA taxes include both the Social Security tax and a Medicare Hospital Insurance tax of 2.9% of all covered earnings (of which 1.45% is paid by each employee and employer).
Price Indexing	In the context of Social Security, a proposed alternative method of calculating benefits. The most commonly discussed form of price indexing would increase individuals' benefit levels at the rate of price growth (i.e., <i>inflation</i>) rather than at the rate of wage growth (as under current law). Under this form of price indexing, the <i>primary insurance amount (PIA) factors</i> would be multiplied each year by the ratio of the <i>Consumer Price Index (CPI)</i> to the <i>Average Wage Index (AWI)</i> for the second prior year. Under a system of price indexing, beneficiaries' Social Security benefits would be lower than under current law. (Other parts of the Social Security benefit formula which are wage indexed under current law, such as <i>bend points</i> , could also be price indexed, but the term "price indexing" is typically used in reference to reducing the PIA factors.)
Primary Insurance Amount (PIA)	The monthly Social Security benefit amount payable to a retired worker who begins to receive benefits at the <i>full retirement age (FRA)</i> or, generally, to a <i>disabled</i> worker. This amount, which is based on the worker's <i>average indexed monthly earnings (AIME)</i> , is also used to calculate benefits payable on the worker's earnings record—for example, benefits paid to his or her spouse or survivors. Also referred to as a basic benefit amount. For more information on the PIA calculation, please refer to Appendix A .
Primary Insurance Amount (PIA) Factors	The factors by which the dollar amounts in the <i>primary insurance amount (PIA) formula</i> are multiplied. The PIA factors are 90%, 32% and 15%; each is applied to a worker's <i>average indexed monthly earnings (AIME)</i> amounts between the <i>bend points</i> in the PIA formula.
Primary Insurance Amount (PIA) Formula	The formula to calculate the <i>primary insurance amount (PIA)</i> for workers who attain age 62, become <i>disabled</i> , or die after 1978. The PIA is equal to 90% of a worker's <i>average indexed monthly earnings (AIME)</i> up to the first <i>bend point</i> , plus 32% of AIME between the first and second bend points, plus 15% of AIME above the second bend point.
Progressive	A system in which lower earners receive proportionately higher benefits (or pay proportionately lower taxes) than do higher earners. The Social Security benefit formula is progressive.
Purchasing Power	The amount of goods and services that a given amount of money can buy. In the context of Social Security, beneficiaries receive an annual <i>cost-of-living adjustment (COLA)</i> in which benefits are adjusted according to the growth in prices (i.e., <i>inflation</i>) as a way to maintain the purchasing power of benefits over the course of a beneficiaries lifetime.
Quarters of Coverage	See <i>credits</i> .
Quintile	One of five segments of a distribution that has been divided into fifths. For example, an individual in the second-from-the-bottom quintile of an income distribution is one whose income falls between the 20 th and 40 th percentile of the income of the population. In this report, <i>income quintiles</i> are used to illustrate the effects of policy changes on individuals of different income levels.
Real Dollars	The value of an amount of money measured in terms of purchasing power in a given year. Real dollars are adjusted for <i>inflation</i> . In this report, real values are in 2005 dollars.
Regressive	A system in which lower earners pay proportionately higher taxes (or receive proportionately lower benefits) than do higher earners. The Social Security payroll tax is regressive, since the tax rate is flat and the amount of taxable earnings is capped.

Replacement Rate	In the context of Social Security, the proportion of taxable earnings before retirement that are replaced by benefits. A Social Security replacement rate is calculated by dividing a worker's initial Social Security benefit by his or her <i>average indexed monthly earnings (AIME)</i> . Replacement rates are one way of measuring the <i>adequacy</i> of a person's benefits.
Retirement Earnings Test (RET)	A provision of the law which reduces Social Security benefits on account of earnings from work before the <i>full retirement age (FRA)</i> . In 2006, the RET applied to beneficiaries earning more than \$12,480 before the year in which they reach the FRA, and to beneficiaries earning more than \$33,240 during the year in which they reach the FRA (i.e., during the months before their birthdays). For more information on the RET, please see Appendix C .
Scheduled Baseline	In the context of Social Security, a <i>baseline</i> that includes benefits according to the formula set forth in the law, regardless of whether those benefits would be payable with current tax income and accumulated trust fund assets. Scheduled benefits would be greater than payable benefits in the case of Social Security insolvency. (See also <i>payable baseline</i> .)
Short Range	In the context of Social Security, the next 10 years. The annual Social Security Trustees Report includes short-range projections of Social Security's financial status. (See also <i>long range</i> .)
Social Insurance	A system that insures workers and their families against economic insecurity caused by the loss of earnings or health care due to some event (e.g., retirement, unemployment, disability, or death). Benefit amounts are based on workers' and employers' contributions to the social insurance system. Social Security is a system of social insurance.
Solvency	In the context of Social Security, the ability to pay scheduled benefits when due out of current tax income and accumulated trust fund assets. Social Security is considered solvent as long as the Social Security trust funds maintain a positive balance.
Spouse Benefits	Social Security benefits payable to the spouse or divorced spouse of a retired or <i>disabled</i> worker, based on the worker's earnings record. The <i>primary insurance amount (PIA)</i> for a spouse beneficiary is generally 50% of his or her spouse's PIA. For more information on how spouse benefits are calculated, please see Appendix B .
Survivor Benefits	Social Security benefits payable to the survivors of a deceased worker, based on the worker's earnings record. Potential survivor beneficiaries include widow(er)s, former spouses, children, and parents of the deceased worker. The <i>primary insurance amount (PIA)</i> for an aged widow or widower is 100% of his or her deceased spouse's actual benefit amount (i.e., the deceased spouse's PIA after applying the <i>early retirement reduction</i> or <i>delayed retirement credit (DRC)</i> , if applicable). Other types of survivor benefits—child's, mother's, father's, and parent's benefits—are not analyzed in this report. For more information on how survivor benefits are calculated, please see Appendix B .
Taxable Earnings	In the context of Social Security, wages and/or self-employment income earned in <i>covered employment</i> that is less than the <i>taxable earnings base</i> . (About 85% of covered earnings were taxable in 2005.)
Taxable Earnings Base	The maximum annual amount of <i>covered earnings</i> that are subject to Social Security payroll taxes and credited toward Social Security benefits. Covered earnings above this amount are neither <i>taxable</i> nor creditable for benefit computation purposes. The amount of the taxable earnings base is <i>wage indexed</i> (i.e., rises each year with overall wage growth). In 2006, the amount of the taxable earnings base was \$94,200. (Also called the contribution and benefit base, taxable wage base, or the taxable maximum.)
Taxable Maximum	See <i>taxable earnings base</i> .

Wage Indexation	In the context of Social Security, a method by which dollar values are adjusted to account for the annual growth in national wages. The <i>Average Wage Index (AWI)</i> is used to increase values in the Social Security program, including the <i>average indexed monthly earnings (AIME)</i> formula, the <i>taxable wage base</i> , the <i>bend points</i> in the <i>primary insurance amount (PIA)</i> formula, and the <i>retirement earnings test (RET)</i> exempt amounts.
Worker Benefits	Social Security benefits payable to a retired or <i>disabled</i> worker, based on his or her own earnings record.

Author Contact Information

Laura Haltzel
Specialist in Income Security
lhaltzel@crs.loc.gov, 7-4895

Dawn Nuschler
Specialist in Income Security
dnuschler@crs.loc.gov, 7-6283

Kathleen Romig
Analyst in Income Security
kromig@crs.loc.gov, 7-3742

Gary Sidor
Information Research Specialist
gsidor@crs.loc.gov, 7-2588

Scott Szymendera
Analyst in Disability Policy
sszymendera@crs.loc.gov, 7-0014

Mikki Devine Waid
Applications Developer, Client-Server and WEB
mwaid@crs.loc.gov, 7-3908

Debra B. Whitman