SOCIAL SECURITY REFORM

Issues for Disability and Dependent Benefits
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What GAO Found

We considered several reform elements that could improve Social Security Trust Fund solvency by reducing the initial benefits received or the growth of individual benefits over time. According to our simulations, these reform elements would reduce median lifetime benefits for disabled workers by up to 27 percent (see graph) and dependents by up to 30 percent of currently scheduled levels. While the size of the benefit reduction could vary across individuals, it could be substantial for the vast majority of these beneficiaries, depending upon the reform element.

Options for protecting the benefits of disabled workers and dependents from the impact of reform elements include, among others, a partial exemption, whereby currently scheduled benefits are maintained until retirement age. For example, while simulations showed that one reform element could decrease median lifetime benefits of disabled workers to about 89 percent of currently scheduled levels, a partial exemption could restore them to about 96 percent. Further, these protections could be more targeted. For example, a larger cost of living adjustment would result in more rapid benefit growth for those disabled workers who receive benefits for a prolonged period of time. Some protections for dependent benefits could be targeted to a single group of dependents, such as widows, while others could affect multiple groups. For example, increasing the maximum benefit a family can receive could protect a wider group of beneficiaries, including children and spouses of disabled workers, and disabled adult children.

While it may be desirable to protect the benefits of disabled workers and certain dependents, such protections would come at a cost to Social Security. Protecting benefits could lessen the impact that a reform element would have on solvency. In addition, such protections could create incentives to apply for Disability Insurance, if disability benefits remained stable while retirement benefits were reduced.
# Contents

## Letter

- Results in Brief .......................... 3
- Background ............................... 5
- Certain Benefit-Reducing Reform Elements Could Have a Substantial Impact on Disabled Workers and Dependents 13
- Options Protecting the Benefits of Disabled Workers and Dependents Could Mitigate the Effects of Benefit-Reducing Reform Elements 23
- Some Protection Options May Create New Costs and Unintended Incentives for the Social Security Program 35
- Conclusions ............................... 39
- Matter for Congressional Consideration 40
- Agency Comments ....................... 40

## Appendix I

### Methodology

- Microsimulation Model .................. 42
- Description of Social Security Reform Elements 45
- Description of Protection Options .......... 48
- Options Modeled to Protect Benefits of Disabled Workers 50
- Data Reliability .......................... 51

## Appendix II

### Calculating OASDI Benefits

- Calculating Old-Age Benefits .......... 53
- Calculating Disability Benefits .......... 56
- Calculating Benefits for Dependents of Retired and Disabled Workers 58
- Calculating Survivors’ Benefits .......... 59

## Appendix III

### Comments from the Social Security Administration

## Related GAO Products

## Tables

Table 1: Reform Elements, Their Solvency Impacts, and the Percentage of Disabled Workers and Dependents with Reduced Total Lifetime Benefit Levels for the 1985 Cohort 16
Table 2: Options for Protecting Disabled Worker and Dependent Benefits from Social Security Reform 24
Table 3: Child Beneficiaries 34
Table 4: Total Lifetime and Average Monthly Benefits of Two Simulated Individuals Who Began Receiving Benefits at Age 62, Exemptions Apply to Disabled Workers (1985 Cohort) 38
Table 5: Options for Protecting Disabled Worker and Dependent Benefits from Social Security Reform 48
Table 6: Dependent Benefits 59

Figures

Figure 1: Social Security Beneficiaries by Beneficiary Status, 2007 6
Figure 2: Disabled Worker and Dependent Benefits Timeline 8
Figure 3: Evolution of the OASDI Program 9
Figure 4: Projected Median Lifetime Benefits for Disabled Workers (1985 Cohort) 18
Figure 5: Projected Median Lifetime Benefits for Those Who Have Ever Received Dependent Benefits (1985 Cohort) 19
Figure 6: Percentage Range of Projected Reductions in Total Lifetime Benefits for Disabled Workers (1985 Cohort) 21
Figure 7: Percentage Range of Projected Reductions in Total Lifetime Benefits for Individuals Who Have Ever Received Dependent Benefits (1985 Cohort) 22
Figure 8: Projected Median Lifetime Benefits under a COLA Reduction of 1 Percentage Point (1985 Cohort) 28
Figure 9: Projected Median Lifetime Benefits under Price Indexing (1985 Cohort) 30
Figure 10: Projected Median Lifetime Benefits under Longevity Indexing (1985 Cohort) 31
Figure 11: Projected Median Lifetime Benefits under Progressive Price Indexing (1985 Cohort) 32
Figure 12: Simulated Total Lifetime Benefits for Two Similar Individuals Who Began Receiving Benefits at Age 62, Exemptions Apply to Disabled Workers (1985 Cohort) 38
Figure 13: Calculating Benefits for Retirees 54
Figure 14: Calculating Benefits for Disabled Workers 57
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIME</td>
<td>Average Indexed Monthly Earnings</td>
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<tr>
<td>COLA</td>
<td>cost-of-living adjustment</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<tr>
<td>CPI-U</td>
<td>consumer price index for urban consumers</td>
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<tr>
<td>CPI-W</td>
<td>consumer price index for urban wage earners and clerical workers</td>
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<td>CSSS</td>
<td>Commission to Strengthen Social Security</td>
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<td>DAC</td>
<td>disabled adult children</td>
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<tr>
<td>DI</td>
<td>Disability Insurance</td>
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<tr>
<td>FRA</td>
<td>full retirement age</td>
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<tr>
<td>GEMINI</td>
<td>Genuine Microsimulation of Social Security Accounts</td>
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<tr>
<td>MINT3</td>
<td>Modeling Income in the Near Term</td>
</tr>
<tr>
<td>OASDI</td>
<td>Old Age, Survivors, and Disability Insurance</td>
</tr>
<tr>
<td>OACT</td>
<td>Office of the Chief Actuary</td>
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<tr>
<td>PENSIM</td>
<td>Pension Simulator</td>
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<tr>
<td>PIA</td>
<td>primary insurance amount</td>
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<td>PSG</td>
<td>Policy Simulation Group</td>
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<tr>
<td>SI</td>
<td>Survivors’ Insurance</td>
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<tr>
<td>SSAB</td>
<td>Social Security Advisory Board</td>
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<td>SSASIM</td>
<td>Social Security and Accounts Simulator</td>
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</table>

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October 26, 2007

The Honorable Charles B. Rangel
Chairman
The Honorable Jim McCreery
Ranking Member
Committee on Ways and Means
House of Representatives

The Honorable Michael R. McNulty
Chairman
The Honorable Sam Johnson
Ranking Member
Subcommittee on Social Security
Committee on Ways and Means
House of Representatives

The Honorable Sander M. Levin
House of Representatives

Social Security forms the foundation of retirement income, providing old age benefits to millions of Americans. However, Social Security is more than a retirement program; it provides benefits to survivors and other dependents as well as to disabled workers. For all these recipients, benefits are determined through a common formula. Therefore, the prospect of altering the benefit formula to address Social Security’s financial shortfall would affect all beneficiaries, not just retired workers. Moreover, changes to the benefit formula could have a large impact on those beneficiaries who are least able to compensate for any reduction in benefits. For example, disabled workers may have fewer alternative sources of income—especially earnings-related income—than do retired workers, to offset any planned reduction in benefits. In addition, certain dependents, such as older widows, may rely more heavily on Social Security benefits and may not have the means to offset reductions caused by reform. Hence, benefit reductions related to reform could potentially affect the welfare of disabled workers and dependent beneficiaries more substantially than those of retired workers.

Nonetheless, the debate over Social Security reform has focused primarily on the effects proposed reforms would have on retirees—with little discussion of how they might affect disabled workers and dependents. Given interest in protecting these beneficiaries, this report discusses
To determine how certain elements of Social Security reform would affect disability and dependent benefits, we first selected reforms by reviewing a number of reform plans, current literature, and our past work to identify reform elements that would have an impact on benefits. We then estimated the percentage of disabled workers and dependents whose benefits would be affected by certain reform elements by simulating the outcome for a sample of workers born in 1985, using a microsimulation model. We also used data from this model to analyze the difference in both median and total lifetime benefits between currently scheduled benefits and those under each reform element. Rather than consider the distribution of benefits across recipients, we show the impact of reform and protections on median benefits. This approach provides a snapshot of how the reforms would affect individuals in each target group (disabled workers and dependents). In addition, when we consider total lifetime benefits, we are able to examine the extent to which individuals are affected. While scheduled benefits are not attainable under current funding levels, they nevertheless provide us with a point of comparison in examining the impact of various reform elements. To identify options for protecting disabled worker and dependent benefits, we reviewed the current

1Our approach to the analysis is based on the premise that, under benefit reducing reforms, disabled workers and certain dependents would likely have limited options for alternative sources of income to make up for the loss in benefits. In particular, comparisons of the relative welfare of disabled workers, dependents, and retirees are beyond the scope of this job.

2We used the Genuine Microsimulation of Social Security (GEMINI) microsimulation model under a license from the Policy Simulation Group, a private contractor. GEMINI estimates individual effects of policy scenarios for a representative sample of future beneficiaries. GEMINI can simulate different reform features for their effects on the level and distribution of benefits. See appendix I for more detail on the modeling analysis, including a discussion of our assessment of the data reliability of the model.

3We analyzed the impact of each reform element individually. We did not simulate a scenario in which reform elements were combined and implemented simultaneously. It is important to note that the individual reform elements can interact with one another and that the impact of one reform element, taken on its own, may change when combined with other reform elements in a proposal. Moreover, each reform element has pluses and minuses. As a result, Social Security reform proposals should be evaluated as a package of reform options designed to meet certain stated objectives.
literature and our past work and interviewed relevant experts. To determine how these protections would affect both disability and dependent benefits, we analyzed the change in median lifetime benefits given various reform elements and different protections, using the microsimulation model, as well as some qualitative analysis. Finally, to determine the impact that protecting benefits could have on the Social Security program itself, we interviewed relevant experts, reviewed the literature, and conducted a qualitative analysis of the issues involved. Throughout our analysis, we assume that the Disability Insurance (DI) program maintains its current operational structure in terms of disability determination, although GAO has recommended certain measures that Social Security should take to modernize the program and its administration. For more details on our approach to this study and on the microsimulation model, please see appendix I.

Throughout this report, the term “dependents” refers to those beneficiaries who receive some or all of their Social Security benefits based on a family member’s earnings record. Our dependent category includes survivors—such as widow(er)s and surviving children—as well as spouses and children of both retirees and individuals receiving disability benefits. Specifically, dependents need not demonstrate financial dependence, but rather familial relationships such as those listed above. Also, throughout the report, “disabled worker benefits” refers to the type of benefit that an individual with disabilities who qualifies for the DI program would receive based on his or her own earnings record. Further, those individuals who receive disabled worker benefits are referred to as “disabled workers.” While we understand the sensitivity associated with this terminology, our use of this term is consistent with the Social Security Administration’s terminology and aims to precisely represent such beneficiaries and their benefits.

We conducted our work between October 2006 and October 2007 in accordance with generally accepted government auditing standards.

<table>
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<tr>
<th>Results in Brief</th>
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<td>Most of the elements for reforming Social Security that we considered would reduce future benefits from currently scheduled levels for Social Security recipients, including the great majority of disabled workers and dependents. These reform elements include longevity indexing (changing benefits to reflect increased life expectancies), price indexing (adjusting benefits so they grow at the rate of inflation rather than wages), progressive price indexing (a graduated form of price indexing), and changes to the cost-of-living adjustment. According to our simulations,</td>
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most such changes would reduce benefits for at least three-quarters of disabled workers and dependent beneficiaries in the 1985 cohort. For example, progressive price indexing would affect more than 75 percent of these beneficiaries, while other reform elements we analyzed would affect virtually all beneficiaries. In addition, most reform elements would reduce the median lifetime benefits of disabled workers and dependents to between 70 and 93 percent of currently scheduled levels, with price indexing resulting in the largest reduction. These reform elements would not affect individuals uniformly. For example, longevity indexing would reduce the lifetime benefits of 86 percent of disabled workers by between 10 to 25 percent; the other 14 percent would generally face reductions of 10 percent or less.

There are many options for protecting both disabled worker and dependent benefits. Some of these options can be targeted to particular groups of beneficiaries. The options include, among others, a partial exemption—by which the beneficiary receives currently scheduled benefits until retirement age—and a full exemption—by which the beneficiary receives benefits at the currently scheduled level throughout the remainder of his or her life. Through our simulation of reform elements and various protections, for example, we found that a one percentage point reduction in the cost-of-living adjustment would reduce the median lifetime benefits of disabled workers to about 89 percent of their currently scheduled level, but a partial exemption could restore them to about 96 percent. Options for protecting the benefits of disabled workers could also be structured to mitigate benefit reductions that result from changes to the initial benefit calculation. For example, disabled workers who receive benefits for a prolonged period of time could be given a “super COLA” that would allow their benefits to grow more rapidly. In terms of dependent benefits, protections could cover a single group, such as widows, or multiple groups. For example, increasing the maximum family benefits could protect the benefits of child survivors, widowed parents, children and spouses of disabled workers, and disabled adult children.

In general, although it may be desirable to protect the benefits of certain disabled workers and dependents, such protections would come at a cost to the program and could create unintended incentives that would negatively affect Social Security’s finances. While the reforms we considered were aimed at improving the solvency of Social Security, protecting the benefits of these populations would lessen the effect of each of these reforms. In addition, certain protections may create incentives for individuals who might not otherwise apply for Disability
Insurance to do so. For example, those nearing retirement may apply for the Disability Insurance program if disability insurance benefits remained stable while retirement benefits fell.

The Department of the Treasury provided technical comments. The Social Security Administration (SSA) provided general and technical comments. We incorporated the comments throughout our report as appropriate.

Social Security is one the largest federal programs in the United States, providing about $546 billion in benefits in 2006 to over 49 million beneficiaries. Although the majority of Social Security benefits are paid to retirees, Social Security does much more than provide retirement income. Social Security Disability Insurance (DI) pays monthly cash benefits to nearly 7 million workers who, due to a severe long-term disability, can no longer remain in the workforce. Additionally, Social Security provides benefits to over 11 million dependents, including payments to widows and widowers as well as surviving parents and children under Survivors’ Insurance (SI), plus benefits to dependent spouses and children of retired and disabled workers paid from the Old Age Insurance (or Old Age) and DI trust funds. Social Security benefits often represent a significant source of income for their recipients, providing an average of $1,051 a month (as of July 2007) to retired workers, $965 a month to widows and widowers, and $979 a month to disabled workers. Although disabled workers and dependents receive slightly lower average monthly benefits than retired workers, benefits could be particularly important to these individuals. These beneficiaries may face considerable hardships; for example, a disabling condition may make work and other activities of daily living more difficult. As a result, these beneficiaries may have financial difficulties planning and preparing for death or disability in the way one might plan for retirement. Social Security was never intended to provide an adequate income by itself, but instead serves as an income base on which to build. In fact, the Social Security program balances the goals of income adequacy with individual equity, i.e., that lower income beneficiaries should receive higher benefits relative to wages than higher income beneficiaries (adequacy), and beneficiaries with higher lifetime income receive higher benefits in accordance with their income/lifetime contributions (equity).

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4For the purpose of this report, dependents will encompass benefits to survivors as well as all dependent spouses and children.
History and Development of DI and Dependents’ Benefits

Although Social Security had originally been envisioned to include disability and survivors’ insurance, the 1935 Social Security Act created only a retirement program. Over the next 40 years, the program expanded both the size and type of its benefits, introducing benefits for dependents and disabled workers (fig. 2). The first new type of benefits went to dependents, as the 1939 amendments offered payments to elderly dependent wives and widows, as well as dependent children. (Some husbands and widowers were allowed to receive these same benefits after

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Notes: Some Social Security beneficiaries are entitled to more than one type of benefit. If both benefits are financed from the same trust fund, the beneficiary is usually counted only once in the statistics, as a retired-worker or a disabled-worker beneficiary, and the benefit amount recorded is the larger amount associated with the auxiliary benefit. If the benefits are paid from different trust funds, the beneficiary is counted twice and the respective benefit amounts are recorded for each type of benefit. Accessed from http://www.ssa.gov/policy/docs/quickfacts/stat_snapshot/ on August 29, 2007.
Creating these benefits was not only seen as socially desirable, but also offered additional protections for workers and their families from risk and spent down surpluses created by the system. Disability Insurance, which had been recommended by the 1938 and 1948 advisory councils, was established in 1956 to provide cash benefits to permanently disabled workers over the age of 50. The DI program was later expanded to include disabled workers under the age of 50 as well. In 1961, widows benefits increased from 75 to 85 percent of their deceased spouse’s benefits, and then to 100 percent in 1972. In addition, eligibility was extended to divorced spouses as well as to the spouses and children of disabled workers. Furthermore, benefit levels for retirees, dependents, and disabled worker beneficiaries grew during this time period. However, facing solvency crises, legislative efforts to control the size of the Social Security program were made in the mid 1970s and early 1980s.

In order to receive these benefits, husbands and widowers needed to be currently and fully insured at the time of their wives’ retirement or death. In addition, the husband (or widower) had to prove he was financially dependent on his wife. In 1983, virtually all gender-based distinctions were eliminated.
In order to maintain trust fund solvency, major changes were enacted to reduce the growth of Social Security benefit levels from the mid-1970s to the early 1980s. Additionally, a number of legislative changes to the DI and dependents’ programs eliminated or reduced certain benefits and tightened the eligibility standards for receiving other benefits. However, despite ongoing fiscal concerns, eligibility for a few dependents’ and disability benefits has been expanded since 1975, suggesting an interest in protecting some vulnerable populations who may rely on Social Security for a significant portion of their monthly income. Although recent reform proposals have focused on elements intended to improve solvency, there continues to be some interest in protecting some or all DI and dependents’
benefits from potential benefit reductions. Figure 3 shows how Old Age, Survivors, and Disability Insurance (OASDI) has grown financially and in terms of beneficiaries over time.

**Figure 3: Evolution of the OASDI Program**

![Chart showing the evolution of the OASDI Program from 1945 to 2005.](chart)

Source: GAO analysis of SSA data; Art Explosion, images.

**Development of a Single Benefit Formula**

Although the 1935 act did not provide for disability and dependents’ benefits, those benefits were later built upon the existing Social Security structure, and today all benefits continue to be calculated from a common formula. Dependents’ benefit levels were set as fractions of the benefits owed to the person upon whom beneficiaries depended. For example,
under the 1939 legislation, a widow would receive 75 percent of her deceased husband’s benefits, and dependent children or spouses would receive 50 percent of the retired worker’s benefits. When Congress created the DI program in 1956, it provided a lower retirement age (50) for those who were permanently and totally disabled. The same benefit formula used in computing OASI benefits was adopted for disability benefits because the original DI program treated disabled workers as being forced into premature retirement. In 1960, when Congress expanded the DI program by eliminating the requirement that disabled workers had to be 50 years old, the same benefit formula applied. Because benefit types shared a common formula, automatic indexing provisions implemented in 1972 and 1977 applied across the board.

The OASDI programs are tightly linked in other ways as well. These programs are financed through a common mechanism—payroll taxes; receipts from the payroll tax are deposited into the OASI and DI trust funds which, like the two programs, are separate but often combined in discussion and analysis of Social Security’s solvency and sustainability. Furthermore, beneficiaries can receive multiple types of benefits over their lifetimes, moving into, out of, and among Social Security programs at different life stages. When disabled workers reach the full retirement age (FRA), for example, they begin to receive retirement benefits from the Old Age program, in place of DI benefits; the common benefit formula keeps such individuals’ benefit levels stable. In another case, a recent widow(er) might have her (or his) retirement or spousal benefits replaced with survivors’ benefits based on the relative earnings of the deceased spouse. Because parents, children, or spouses may be eligible for dependents’ benefits through the Old Age, Survivors, and Disability Insurance programs, a person can collect several types of Social Security benefits over a lifetime, although generally not simultaneously. The many linked pieces of Social Security could make developing a single, comprehensive

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7 Payroll tax rates are specified separately for each program and receipts deposited into two separate accounts in the United States Treasury. However, over the years, there have been tax rate reallocations and loans between the two trust funds.

8 When a person is converted from the DI program to the Old Age programs, there is no recalculation of his benefits, which continue to receive annual COLAs; however, the benefits will be paid from the OASI trust fund instead of the DI trust fund.

9 Some beneficiaries may be dually entitled and receive benefits based on their own record and on that of their spouse.
reform package challenging because such a package would need to take into account all of these pieces.

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| Under current law, Old Age benefits are generally calculated through a four-step process in which a progressive yet earnings-based formula is applied to an earnings history, and then updated annually through a cost-of-living adjustment (COLA). For those who receive retirement benefits, this earnings history is generally based on the 40 years in which credited earnings were highest, with the 5 lowest-earning years dropped out (leaving the highest 35 years of indexed earnings to be included in the initial benefit calculation). Dependents’ benefit levels are determined as a given percentage of Old Age benefit levels. Eligible children and spouses can receive up to 50 percent of a worker’s benefit; widow(er)s can be given up to 100 percent; and surviving parents or children can collect up to 75 percent, subject to a family maximum.

DI benefits are calculated similarly to Old Age benefits, but are generally based upon a shortened work history. (For more detail on how benefits are calculated, refer to app. II.) To be eligible for benefits, individuals must have a specified number of recent work credits under Social Security when they first become disabled. Individuals must also demonstrate the inability to engage in substantial gainful activity by reason of a physical or mental impairment that has lasted or is expected to last for twelve continuous months or to result in death. If not eligible on medical grounds, SSA must also consider age, education and past work history. In particular, medical eligibility criteria for DI are less stringent for applicants over the age of 55.

Based on prior work, GAO has designated modernizing federal disability programs (including the DI program) as a high risk area because of challenges that continue today. For example, GAO found that federal disability programs remain grounded in outmoded concepts that equate medical conditions with work incapacity. While SSA has taken some

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11 The total number of years to be counted in the work history is the number of elapsed years from the latter of 1950 or the year in which the worker attains age 21 and before the worker becomes disabled, dies, or attains age 62 (thus the 40 years in the text above)—whichever comes first—excluding any years in which the worker is in a period of disability.
actions in response to prior GAO recommendations, GAO continues to believe that SSA should continue to take a lead role in examining the fundamental causes of program problems and seek the regulatory and legislative solutions needed to modernize its programs so that they are aligned with the current state of science, medicine, technology, and labor market conditions. Moreover, SSA should continue to develop and implement strategies to better manage the programs’ accuracy, timeliness, and consistency of decision making.

Social Security’s Financing

Social Security is currently financed primarily on a pay-as-you-go basis, in which payroll tax contributions of current workers are used primarily to pay for current benefits. Since the mid-1980s, the Social Security program has collected more in taxes than it has paid out in benefits. However, because of the retirement of the baby boomers coupled with increases in life expectancy, and decreases in the fertility rate, this situation will soon reverse itself. According to the Social Security Administration’s 2007 intermediate assumptions, annual cash surpluses are predicted to turn into ever-growing cash deficits beginning in 2017. Absent changes to the program, these deficits are projected to deplete the Social Security DI trust fund in 2026 and the OASI trust fund in 2042, leaving the combined system unable to pay full benefits by 2041. Reductions in benefits, increases in revenues, or a combination of both will likely be needed to restore long-term solvency. A number of proposals have been made to restore fiscal solvency to the program, and many include revenue enhancements, benefit reductions, or structural changes such as the introduction of individual accounts as a part of Social Security. Because many reforms to the benefit side of the equation would reduce benefits through changes in the benefit formula, they could affect DI and dependents’ benefits as well as Old Age benefits. Unless accompanied by offsets or protections, these reforms might reduce the income of disabled workers and dependents. This situation could be challenging for these beneficiaries as they may have relatively low incomes or higher health care costs and rely heavily on Social Security income. Many disabled workers and dependents may also

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13Because the future is uncertain, the Trustees use three alternative sets of assumptions to show a range of possible outcomes. The intermediate assumptions represent the Social Security Administration’s best estimate of the trust funds’ future financial outlook. The Trustees also present estimates using low cost and high cost sets of assumptions. In addition, the Trustees Report describes a range of possible outcomes using stochastic modeling techniques.
have trouble taking on additional work and accumulating more savings and, thus, have difficulty preparing for Social Security benefit reductions.

**Certain Benefit-Reducing Reform Elements Could Have a Substantial Impact on Disabled Workers and Dependents**

Many reform elements could have a substantial impact on the benefits of Social Security recipients, including those of disabled workers and dependents. We considered six such elements that have been included in reform proposals to improve trust fund solvency. These reform elements take a variety of forms and would change either the initial benefit calculation or the growth of individual benefits over time. Our projections indicated that most of these elements would reduce benefits from currently scheduled levels for the majority of both disabled workers and dependents. That is, most would reduce median lifetime benefits for these beneficiary types—some more substantially than others. Many of these beneficiaries would also experience a reduction in total lifetime benefits; the extent of which would depend on the reform element and individual.

**Benefit-Reducing Reform Elements Take Different Forms**

We considered six different reform elements that could help control costs and improve Social Security solvency by reducing benefits. Five would change how initial benefits are calculated, and one would limit the growth of an individual’s benefits over time.

We considered several ways to improve solvency:

- Longevity indexing would lower the amount of the initial benefit in order to reflect projected increases in life expectancy. Such indexing would maintain relatively comparable levels of lifetime benefits across birth years by proportionally reducing the replacement factors in the initial benefit formula.
- Price indexing would maintain purchasing power while slowing the growth of initial benefits. This would be accomplished by indexing initial benefits to the growth in prices rather than wages, as wages tend to increase faster than prices.

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14 While currently scheduled benefits are not attainable under current funding levels, they nonetheless provide a point of comparison in examining the impact of various reform elements.

15 These reform elements have been proposed as part of recent larger reform proposals.

16 See appendix II for a full explanation of how benefits are currently calculated.
Progressive price indexing, a form of price indexing, would control costs while protecting the benefits of those beneficiaries at the lowest earnings levels (in terms of career average earnings). It would continue to index initial benefit levels to wages for those below a certain earnings threshold and employ a graduated combination of price indexing and wage indexing for those above this threshold.

Increasing the number of years used in the benefit calculation would also control program costs. For example, initial benefits could be based on the highest 40, rather than 35, years of indexed earnings. This could be done either by eliminating the 5 years normally excluded from the calculation or by increasing the total number of years factored in from 40 to 45 years. In either of these cases, the initial Old Age benefit would be calculated using the highest 40 years of indexed earnings.\(^{17}\) (For more information on these reform elements and how we incorporated them into our microsimulation model, see app. I.)

Raising the age at which people are eligible for full retirement benefits could change the amount and/or the timing of initial benefits. Increasing the full retirement age would improve solvency by generally increasing the number of years worked, reducing the number of years benefits are received and increasing revenue to the system through payroll taxes in the additional years worked. Further, those who retire early would have their benefits actuarially reduced.

Though it would not generally affect initial benefit amounts, a change to Social Security’s cost-of-living adjustment (COLA) could also control costs and improve solvency by limiting the growth of an individual’s benefits over time. The COLA adjusts benefits to account for inflation by indexing benefits to price growth annually, using the Consumer Price Index (CPI).\(^{18}\) Setting the COLA below the CPI would limit the nominal growth of an individual’s benefits over time,\(^{19}\) and as such those who receive benefits for a prolonged period of time would see the largest reductions.

\(^{17}\)Changing the number of drop-out years would have less of an effect (or no effect) on disabled workers because their drop-out years are calculated differently. For more on how initial benefits are calculated for disabled workers, see appendix II.

\(^{18}\)Specifically, Social Security’s COLAs are based on the consumer price index for urban wage earners and clerical workers (CPI-W), as opposed to the CPI series for all urban consumers (CPI-U).

\(^{19}\)We identified two options for modifying the COLA. The first option, which we analyzed in this report, would reduce the COLA by 1 percentage point to improve solvency. The second option, which we did not analyze, would reduce the COLA by 0.2 to 0.4 percentage points in response to methodological concerns that the CPI overstates the true rate of inflation.
According to our projections for the 1985 cohort, four of the five reform elements that we analyzed would reduce total lifetime benefits for more than three-quarters of disabled workers and dependents, relative to currently scheduled benefits. Table 1 shows the proportions of disabled workers and dependents affected by each of the reform elements. For three of the elements—reducing the COLA by one percentage point, price indexing and progressive price indexing—the percentage of disabled workers affected is very similar to the percentage of dependents affected. Moreover, for these three reform elements, more than 99 percent, or virtually all, disabled workers and dependents would see their benefits reduced. In contrast, progressive price indexing differs from other reform elements in its impact: fewer beneficiaries are affected, and the percentage of disabled workers affected varies from that of dependents. While an estimated 87 percent of dependents would experience a reduction in lifetime benefits under progressive price indexing, an estimated 77 percent of disabled workers would do so.

While the COLA reduction, longevity indexing and price indexing are all designed in such a way that they affect virtually all beneficiaries, the COLA, which has a greater impact on solvency than longevity indexing, affects relatively fewer disabled workers and dependents. This is because the COLA reduction would first affect benefits one year after the initial benefit payment was made, whereas both longevity indexing and price indexing affect the initial benefit amount. Our simulations indicated that 1.11 percent of disabled workers died within the first year of receiving benefits, while only 0.35 percent of dependents did so. Most such beneficiaries would not have received a COLA.

We did not analyze the simulated change in the FRA for both disabled workers and dependents because of modeling constraints nor did we analyze the increase in the number of computation years for disabled workers.

A 1 percentage point decrease in the COLA may have a greater effect on solvency than longevity indexing as we’ve modeled it. In part because while the effects of both reforms are compounded over time, the COLA would affect all beneficiaries once it is implemented and continue over a longer horizon—until death. In contrast, longevity indexing would not affect those who have already retired, nor would it have a great impact on those who retire close to the implementation date. Its effects would be greater on the benefits of those individuals who retire further out from the implementation date.
## Table 1: Reform Elements, Their Solvency Impacts, and the Percentage of Disabled Workers and Dependents with Reduced Total Lifetime Benefit Levels for the 1985 Cohort

<table>
<thead>
<tr>
<th>Element*</th>
<th>Solvency impact* (actuarial scoring)**</th>
<th>Percentage of disabled workers with reduced total lifetime benefits (1985 Cohort)</th>
<th>Percentage of dependents with reduced total lifetime benefits (1985 Cohort)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLA reduction – 1percentage point†</td>
<td>1.49</td>
<td>99.15</td>
<td>99.87</td>
</tr>
<tr>
<td>Increase the number of computation years— from 35 to 40‡</td>
<td>0.46</td>
<td>n/a§</td>
<td>99.99</td>
</tr>
<tr>
<td>Longevity Indexing—reducing formula factors by 0.5%</td>
<td>1.17</td>
<td>99.89</td>
<td>99.98</td>
</tr>
<tr>
<td>Price indexing§</td>
<td>2.38</td>
<td>99.95</td>
<td>99.97</td>
</tr>
<tr>
<td>Progressive price indexing†̂</td>
<td>1.43</td>
<td>76.78</td>
<td>86.90</td>
</tr>
</tbody>
</table>

*Because of modeling constraints, we were unable to analyze the effects of a change in the FRA. However, Social Security actuaries have estimated the solvency impact of increasing the FRA to age 68. This reform would improve actuarial balance by 0.62 percent of taxable payroll.

**Solvency impacts come from SSA’s Office of the Chief Actuary (OCACT). Taken individually, each of the reform elements would improve Social Security solvency. For more on how the reform elements were scored for solvency, see appendix I.

§Actuarial balance as a percentage of taxable payroll.

†OCACT Score based on 2005 Trustees Report intermediate assumptions.

‡We were also unable to analyze the effects of increasing the number of computation years for disabled workers.

†̂OCACT Score based on 2001 Trustees Report intermediate assumptions.

In the microsimulation model, approximately 80 percent of all beneficiaries were affected by the progressive price indexing reform. Some disabled workers also received benefits as dependents at some point in their life, and if those workers are excluded then the percentage of disabled workers affected would fall.

Note: Using the 1985 cohort, we also projected the percentage of workers with reduced total lifetime benefits for Social Security beneficiaries who were never disabled. 99.68% of Social Security beneficiaries who were never disabled would see benefit reductions if the COLA were reduced by 1 percentage point, and 100% would see benefit reductions if the number of computation years was increased from 35 to 40. Under longevity indexing, price indexing, and progressive price indexing the percentage of beneficiaries affected would be 99.99%, 99.99%, and 80.97%, respectively.
According to our simulations each of the reform elements we selected would reduce median lifetime benefits for both disabled workers and dependents relative to currently scheduled benefits (figs. 4 and 5). However, our projections also indicated that these reductions would vary by reform element. Price indexing would have the largest impact on disabled workers and dependents, reducing median lifetime benefits by more than 25 percent. Median lifetime benefits would fall from $473,960 to $343,350 for disabled workers and from $351,910 to $244,745 for dependents. Progressive price indexing, on the other hand, would create the smallest reduction in median lifetime benefits, with median lifetime benefits falling by 7 percent for disabled workers and 8 percent for dependents.

While this report focuses on the impact of certain reforms on disabled worker and dependent benefits, the reforms would affect the benefits of other Social Security recipients as well. Additionally, according to our simulations, disabled workers experienced greater absolute reductions in median lifetime benefits than did beneficiaries who were never disabled for each of the reform elements considered. However, disabled workers also experienced a smaller percentage change in median lifetime benefits than those who were never disabled. Under current law, disabled workers would have higher lifetime benefits (since they may receive benefits for a longer period of time); therefore, the reduction in benefits represents a smaller share of current law benefits.
Figure 4: Projected Median Lifetime Benefits for Disabled Workers (1985 Cohort)

Percentage of scheduled benefits

Source: GAO analysis of GEMINI data.
Additionally, increasing the full retirement age and increasing the number of computation years would likely reduce median lifetime benefits for dependents. Since dependent benefits are linked to those of the primary worker, an increase in the full retirement age could shorten the period of time over which they both receive benefits. Alternatively, some workers may decide not to adjust their retirement plans in response to the increase in the FRA. Those who maintain their original retirement plans, retiring prior to the new FRA, will also receive reduced benefits relative to current law. (See app. II for a discussion of how benefits are adjusted for early retirement.) Thus, under both scenarios, total lifetime benefits would be

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21 Increasing the FRA would not affect disabled workers because the initial benefits calculation for disabled workers does not involve the FRA. However, it would change the age of conversion to retirement benefits. Similarly, changing the number of drop-out years would have less of an effect (or no effect) on disabled workers because drop-out years are calculated differently for disabled workers. For more on how initial benefits are calculated for disabled workers, see appendix II.
reduced, and so, too, would median lifetime benefits. A similar outcome results from increasing the number of computation years by which initial benefits are calculated. By increasing the number of computation years, a worker’s earnings history is expanded to include years of possibly lower indexed earnings. As a result, total benefits for some retired workers, and therefore, their dependents, would likely be reduced, as would median lifetime benefits.

Disabled and Dependent Beneficiaries Are Not Uniformly Affected by Reform Elements

Our projections suggest that, while lifetime benefits would be reduced for virtually all disabled workers and dependents, such reductions would not be uniform across individuals. Figures 6 and 7 compare beneficiaries’ total lifetime benefit reductions by each reform element, for disabled workers and dependents, respectively. If the COLA were reduced by one percentage point, our projections show that approximately 58 percent of disabled workers experienced lifetime benefit reductions of 10 percent or less, while about 42 percent of disabled workers experienced lifetime benefits reduced by 10 to 25 percent. Almost no disabled workers would see benefits fall by more than 25 percent.

In particular, under the COLA reduction, less than 1 percent of disabled workers had no change in lifetime benefits; about 2 percent of disabled workers had a change of 1 percent or less; about 14 percent had a change of more than 1 and up to 5 percent; and about 41 percent had lifetime benefits change by more than 5 and up to 10 percent.
Figure 6: Percentage Range of Projected Reductions in Total Lifetime Benefits for Disabled Workers (1985 Cohort)

Reform elements

Reduce COLA 1 percentage point

Longevity indexing

Price indexing

Progressive price indexing

Percentage of disabled workers (cumulative)

- None
- Less than 1 percent
- Between 1 and 5 percent
- Between 5 and 10 percent
- Between 10 and 25 percent
- Between 25 and 50 percent

Source: GAO analysis of GEMINI data.

Note: The above intervals include the upper endpoint. For example “Between 1 and 5 percent” includes 5, but not 1. No disabled workers had total lifetime benefit reductions of more than 50 percent.
Certain reform elements would create reductions in total lifetime benefits for the vast majority of disabled workers and dependents. These reductions may create new hardships for certain beneficiaries, such as disabled workers, who may not be able to easily replace lost income. According to our projections, price indexing would result in the greatest benefit reductions for the largest percentage of beneficiaries, with decreases in lifetime benefits of between 25 percent and 50 percent for almost 70 percent of disabled workers and about 90 percent of dependents. Both price indexing and longevity indexing have a greater effect on initial benefit amounts the longer the reform is in place. As such,
people who leave the workforce early may experience a smaller reduction in lifetime benefits than those who leave at full retirement age.\textsuperscript{26} For example, as shown in figures 6 and 7, longevity indexing could reduce lifetime benefits for about 86 percent of disabled workers and about 96 percent of dependents by 10 to 25 percent.\textsuperscript{27}

Progressive price indexing may have a more moderate effect on the benefits of disabled workers and certain dependents because it is designed to protect benefit levels for low earners and gradually apply benefit reductions to beneficiaries with higher earnings. Because of shorter earnings histories, some disabled workers would be in the low end of the earnings distribution.\textsuperscript{28} Thus, under progressive price indexing, a greater proportion of disabled workers would be likely to have benefits adjusted by wage indexing. According to our projections, progressive price indexing would reduce total lifetime benefits by 5 percent or less for 46 percent of disabled workers and 35 percent of dependents.

Various options are available to protect benefits in different ways, including accelerating the growth of an individual’s benefits, modifying current constraints on benefit levels, and exempting certain populations from reforms. Options can also target certain types of beneficiaries. We analyzed some of these protections and found they could be structured to mitigate the effects of benefit reductions for varying lengths of time. In addition, we found that specific options to protect dependent benefits could be targeted to certain vulnerable beneficiaries, such as widows and dependent children.

\textsuperscript{26} Many disabled workers leave the workforce in their fifties.

\textsuperscript{27} The other 14 percent generally had reductions of 10 percent or less, and very few disabled workers had reductions in lifetime benefits of more than 25 percent under longevity indexing.

\textsuperscript{28} Many people have lower relative earnings in their first years of work.
Many Options Exist for Protecting Social Security Benefits, Including Full and Partial Exemptions

We found a wide range of options exist for protecting disabled workers and dependents from benefit-reducing reforms. Table 2 provides a summary of the options. The protection options may be very specific in terms of whom they protect and how, or broader in scope. For example, while two protection options focus specifically on disabled adult children (DAC), others, such as partial exemptions could apply to any vulnerable population. In addition to each option having its own strengths and weaknesses, the options could interact with each other and with the various reform elements. When implementing a protection option, all of these factors could influence its impact.

Table 2: Options for Protecting Disabled Worker and Dependent Benefits from Social Security Reform

<table>
<thead>
<tr>
<th>Protection option available for</th>
<th>Protection option</th>
<th>Given a specific reform, the protection option could affect the:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any beneficiary type</td>
<td>Full exemption</td>
<td>Initial benefit amount</td>
</tr>
<tr>
<td></td>
<td>Partial exemption</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Minimum benefit</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Super COLA</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Age-indexed super COLA</td>
<td>✓</td>
</tr>
<tr>
<td>Children and families of disabled workers</td>
<td>Increase the percentage of the worker’s benefit that the dependent family member receives as his/her benefit</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Increase the family maximum benefit level for DI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase the percentage of the worker’s benefit that a dependent child or a disabled adult child (DAC) receives as his/her benefit in combination with increasing the family maximum benefit</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Decouple DAC benefits from other family benefits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hold initial benefit amount harmless for family benefits</td>
<td></td>
</tr>
</tbody>
</table>

This table results from our discussions with knowledgeable experts and relevant officials as well as a review of the current literature on Social Security reform. For more information on how these options could work, see appendix I.
Given a specific reform, the protection option could affect the:

<table>
<thead>
<tr>
<th>Protection option available for</th>
<th>Protection option</th>
<th>Initial benefit amount</th>
<th>Growth of individual benefits</th>
<th>Maximum family benefit available</th>
<th>Eligibility for benefits</th>
<th>Conversion at the full retirement age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children and families of retired workers</td>
<td>Expand eligibility rules for divorced spouses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Increase the percentage of the worker’s benefit that the dependent family member receives as his/her benefit</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase the percentage of the worker’s benefit that a dependent child or DAC receives as his/her benefit in combination with increasing the family maximum benefit</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decouple DAC benefits from other family benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Spouses</td>
<td>Increase the percentage of the worker’s benefit that the spouse receives as his/her benefit</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implement a child/family care credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Survivors</td>
<td>Hold initial benefit amount harmless for family benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Hold early survivors (young children or young widow(er)s) harmless</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Increase the surviving spouse benefit to 2/3 or 3/4 of the combined couples’ benefit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Increase benefits for aged survivors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>Increase the early retirement ageb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

Source: GAO.

*a* If the spouse is eligible for retirement benefits based on his or her own earnings record, Social Security will pay that amount first. However, if the spouse benefit (based on his or her husband’s earnings record) would be a higher amount, Social Security will combine the benefits and pay the higher amount. A spouse receiving such a benefit may also be eligible for a care credit for his or her own earnings record. This care credit could change the initial benefit amount.

*b* While an increase in the early retirement age could increase the initial benefit amounts for those who retire at the new early retirement age, others who may need to stop working at 62 may have no Social Security payments for the elapsed time.

There are several protection options that could be applied to all disabled workers and dependents. Under a full exemption, beneficiaries would not be subject to a reform and their benefits would remain unchanged. Under a partial exemption, beneficiaries would not be subject to a reform until a certain point in time. For example, disabled workers could be exempt from benefit changes until they are converted to the Old Age program at the full retirement age. At this point, their benefit amount would be recalculated to reflect the reform in proportion to the years they spent working. In addition, a super COLA could help protect the benefits of
disabled workers and dependents. A super COLA would mitigate some of the effects of a benefit-reducing reform by annually increasing benefits at a rate above the consumer price index—which is currently used to index benefits.

Some protection options could cover all dependents by increasing the percentage of the worker’s benefit that the dependent receives. (See app. II for more detail on how dependent benefits are calculated.) For example, a number of proposals have called for increasing the percentage of the worker’s benefit that widow(er)s receive. Another option that could protect the benefits of a wide range of dependents would be to raise the maximum benefit that families can receive based on one worker’s earnings record. Other protection options, such as caregiver credits, could focus on protecting particular groups of dependents. Several reform proposals have, in fact, called for providing caregiver credits to individuals who spend time out of the workforce to care for their dependents or to those with reduced or low earnings while attending to care-giving responsibilities. Some proposals assign caregivers a specified level of earnings for each year the caregiver received zero or low earnings compared to prior years. Other proposals exclude zero-earning care years from the initial benefit calculation.30 Another option specific to a certain type of dependent would be to increase benefits for aged survivors, since they are more likely to rely on Social Security to stay out of poverty and could have fewer opportunities, such as returning to work, to respond to benefit-reducing reforms.

Increasing the early retirement age could offer some protection for survivors. If the early retirement age were raised—for example, from 62 to 64—then workers who take early retirement would receive actuarially adjusted benefits for a shorter period of time under the new early retirement age, and thus their monthly benefits would be relatively higher than the monthly benefits they would have received if they had retired at the current early retirement age.31 Since a dependent’s benefit is linked to the worker’s initial benefit amount, an increase in the worker’s benefit


31This would not be the case if at age 62 a worker could no longer remain in the workforce. In such a case, a person may have to apply for DI or may be unemployed (and have low income) for the 2 years prior to taking early retirement.
would also increase the dependent’s benefit, mitigating some of the negative effects of other reforms. Similarly, raising the FRA coupled with a partial exemption from a benefit reduction could offer some additional protection for disabled worker benefits. With an increase in the FRA, disabled workers would receive (exempted) DI benefits for a longer period of time because the age at which their disability benefits are converted to retiree benefits would rise with the new FRA.

Some Benefit Protections Could Restore Benefits to Levels near Those Scheduled under Current Law

In general, the reform elements we examined reduce median lifetime benefits for disabled workers and dependents. Because disabled workers may not have the financial resources—especially earnings related income—to adjust to benefit reductions, we explored the interaction of reform elements and certain options to offset them.

According to our projections, protections from a reduction in the COLA could restore benefits of disabled workers to levels close to those scheduled under current law. Reducing the COLA by one percentage point would result in about a 10 percent decrease in median lifetime benefits for workers who become disabled before age 60. To offset such a decrease, they could be partially or fully exempted. With a COLA reduction, a partial exemption would mean that the Social Security Administration would increase a disabled worker’s benefits annually as scheduled under current law (i.e., using the full COLA) until the worker reached the full retirement age. At that point, the disabled worker’s benefits would grow annually by the reduced COLA (1 percentage point lower than what it would be under current law). Our projections showed that a partial exemption as described above would raise median lifetime benefits from their reduced levels by 7 percent (up to 96 percent of scheduled levels under current law). In contrast, a full exemption would allow annual COLA adjustments in line with current law until death (fig. 8).\(^\text{32}\)

\(^{32}\)In figures 8 to 11, the benefits under a full exemption do not completely return to pre-reform levels. This is because some individuals receiving disabled worker benefits also received some benefits as dependents from another worker’s record. As those benefits would not be subject to the same protections, median lifetime benefits for such disabled workers may remain slightly lower than those under current law.
In addition to a decrease in the COLA, we analyzed options for protecting the benefits of disabled workers under three reform elements that have an impact on the initial benefit amount a disabled worker receives—price indexing, longevity indexing, and progressive price indexing. There are several protection options for mitigating the effects of these reform elements, including full and partial exemptions. In the case of price
indexing initial benefits, we projected that the median lifetime benefits of disabled workers would be about 75 percent of the median benefits under current law (fig. 9). A full exemption for disabled workers would raise the benefits of those disabled workers who exclusively receive DI benefits to the currently scheduled levels. However, a partial exemption from price indexing would restore the median lifetime benefit to 89 to 90 percent of scheduled levels, depending on how the partial exemption is implemented.\textsuperscript{33} One type of partial exemption (Type I) uses price indexing to calculate the portion of the benefits based on the years a person is out of the workforce and receiving DI benefits. In contrast, the other type of partial exemption (Type II) uses wage indexing to cover the same time period. (For more details, please see app. I.) The difference between the two partial exemptions becomes more substantial the earlier one becomes disabled, as the difference between wages and prices increases over time. While offering some protection from benefit reductions, both types of partial exemptions involve a recalculation of benefits at the full retirement age. This recalculation would result in lower benefits for the DI recipient and could create a potential problem if that individual relied on the prior benefit amount and had limited options for replacing the lost income. (See figs. 10 and 11 for longevity indexing and progressive price indexing, respectively.)

\textsuperscript{33}We modeled two different ways of partially exempting disabled workers from the various indexing reforms—one follows the methods outlined in the Kolbe-Stenholm (2001) proposal, which we refer to as Type I. The other partial exemption follows the methods outlined in the Graham (2003) proposal, which we refer to as Type II. For more details on the difference, please see appendix I.
Figure 9: Projected Median Lifetime Benefits under Price Indexing (1985 Cohort)

Percentage of currently scheduled benefits

Disability status
- Scheduled benefits
- Price indexing
- Partial exemption type I
- Partial exemption type II
- Full exemption

Source: GAO analysis of GEMINI data.

Notes: In figures 8 to 11, the population labeled “Never disabled” refers to all beneficiaries—dependent or retirees on their own record—who were never disabled.

In figures 8 to 11, the benefits under a full exemption do not completely return to pre-reform levels. This is because some individuals receiving disabled worker benefits also received some benefits as dependents from another worker’s record at some point in their lifetime. As those benefits would not be subject to the same protections, median lifetime benefits for such disabled workers may remain slightly lower than those under current law.
Figure 10: Projected Median Lifetime Benefits under Longevity Indexing (1985 Cohort)

Percentage of currently scheduled benefits

Disability status

- Scheduled benefits
- Longevity indexing
- Partial exemption type I
- Partial exemption type II
- Full exemption

Source: GAO analysis of GEMINI data.

Notes: In figures 8 to 11, the population labeled “Never disabled” refers to all beneficiaries—dependent or retirees on their own record—who were never disabled.

In figures 8 to 11, the benefits under a full exemption do not completely return to pre-reform levels. This is because some individuals receiving disabled worker benefits also received some benefits as dependents from another worker’s record at some point in their lifetime. As those benefits would not be subject to the same protections, median lifetime benefits for such disabled workers may remain slightly lower than those under current law.
Another protection option would be to allow disability benefits to grow at a greater rate than other benefits. For example, disabled workers could be explicitly included in the scope of the reform, and receive reduced initial benefits. However, instead of receiving annual increases based on the
current-law COLA, disabled workers could have their benefits increased by a “super COLA”—one that is set above the Consumer Price Index. In this case, benefits for the disabled would grow at a faster rate than they would under current law and could approach or even exceed current law levels. Variations on the super-COLA could include an “age-indexed super COLA” which would be greater for those disabled at younger ages. For those workers who become disabled near the full retirement age the COLA would be closer to that used for retirees. These protections could be particularly beneficial for disabled workers who receive benefits for a prolonged period of time.

Protections for Dependent Benefits Could Be Targeted to Certain Vulnerable Beneficiaries, Including Survivors

While protections for disabled workers would generally cover all such beneficiaries, the options for protecting dependent benefits could be more targeted to specific dependents and not necessarily applied to the full range of dependents, which includes spouses, divorcees, widow(er)s, and child survivors. The circumstances around which a person becomes a dependent vary greatly, as does the role of Social Security benefits in their lives. For some, Social Security may be the primary source of support; for others, it may be only a small proportion of their income.

Protections could target children, who make up about 8 percent of Social Security beneficiaries, receiving benefits as the survivors or dependents of disabled or retired workers. Table 3 shows the number of children who receive benefits in each category and the average monthly benefit for these children. One way to protect the benefits of children would be to exempt them from any reform, keeping their benefit calculation tied to current law. Another way to protect their benefits to some degree would be to raise the maximum benefit a family could receive on a single worker’s earnings record.\(^{34}\)

\(^ {34}\)Rather than being an absolute amount, the family maximum is defined as a percentage of the primary worker’s benefit. Therefore, if a reform reduces benefits, the maximum amount a family could receive would also decrease. See appendix II for more details on the family maximum.
Table 3: Child Beneficiaries

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of children receiving benefits (thousands)</th>
<th>Children as a percentage of program beneficiaries</th>
<th>Total monthly benefit children receive (in millions of dollars)</th>
<th>Average monthly benefit (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3959</td>
<td>8.0</td>
<td>1993</td>
<td>503</td>
</tr>
<tr>
<td>Old Age</td>
<td>485</td>
<td>1.4</td>
<td>253</td>
<td>522</td>
</tr>
<tr>
<td>Survivors</td>
<td>1850</td>
<td>28.6</td>
<td>1269</td>
<td>686</td>
</tr>
<tr>
<td>Disability</td>
<td>1624</td>
<td>18.6</td>
<td>471</td>
<td>290</td>
</tr>
</tbody>
</table>

Source: GAO analysis of Social Security data.

Note: Data accessed from http://www.ssa.gov/policy/docs/quickfacts/stat_snapshot/ on August 29, 2007. The children referred to in this chart receive benefits off someone else’s work record – generally a parent. For example, the 1,624,000 children receiving benefits from the DI program have a parent/guardian who is disabled.

The majority of experts with whom we spoke told us that increasing the maximum amount that a family could receive from one worker’s earnings record could help protect child and other dependent benefits. Such an increase could help those dependents who are constrained by the family maximum. A family may have several people receiving benefits based on one worker’s record. The sum of the family members’ benefits may exceed the specified maximum, which is calculated as a percentage of the worker’s benefit amount. Thus, any reform that would result in a decrease in the primary benefit amount would also result in a decrease in the amount that each eligible family member would receive and a corresponding decrease in the total amount a family would receive.

Certain options, including increased allowable benefits for widows or partial exemptions, could be designed to protect the benefits of widow(er)s or others who may have fewer resources available to them. Under current law, widows and widowers can collect 100 percent of their deceased spouse’s benefits (or their own benefit—whichever is greater); a “widow’s boost” would allow them to receive up to 75 percent of the couple’s combined benefits. Widow(er)s may rely on Social Security for a large percentage of their retirement income, in part because they may live many years beyond the exhaustion of other financial resources, may find it difficult to work, or may incur large health expenses that deplete their other resources.

A reduction in the COLA may be particularly detrimental to the lifetime benefits of those who live long lives, because the effect of reducing the
COLA is compounded over time. As such, it may be desirable to protect older widow(er)s—along with other individuals who receive benefits for a prolonged period of time—from the effect of a COLA reduction. For example, in our projections for the COLA reduction, we found that for the group of widows who received some benefits and who died before age 75, median lifetime benefits would be approximately 93 percent of those under current law. In contrast for those who lived past age 95, median lifetime benefits would be only 83 percent of currently scheduled levels.

Some Protection Options May Create New Costs and Unintended Incentives for the Social Security Program

The options for protecting the benefits of disabled workers and those of dependents come at a cost to the Social Security program in terms of its solvency. In addition, some protections options may create incentives for people to apply to the Disability Insurance program if DI benefits increase while retirement benefits stay stable. Further, protection options could provide disincentives for some to return to work.

Protecting the Benefits of Disabled Workers and Dependents Would Increase Costs for the Social Security Program

The Social Security reform elements we examined were designed primarily to improve program solvency. These reform elements would generally reduce benefits from their currently scheduled but underfunded levels. While protecting the benefits of disabled workers and dependents may be socially desirable, such protection would come at some cost to the Social Security program. In particular, the protections lessen the degree to which the potential reforms could restore solvency. One could counter these costs with further benefit reductions to beneficiaries considered less vulnerable than those recipients whose benefits are specifically protected. That is, reform packages with certain benefit protections for vulnerable populations may necessitate further reductions in the benefits of retired workers or increases in revenues to achieve the intended solvency effect. In addition to the effects on solvency, some of the protections discussed may also have administrative costs associated with them.

35 As mentioned earlier, solvency could also be improved by increasing revenues (taxes).
Protecting the benefits of disabled workers may increase the number of people who apply for disability benefits. This may also be relevant to certain reform elements. An increase in the full retirement age coupled with the reduction in benefits for early retirement could motivate some individuals approaching the early retirement age to apply for disability benefits, if they believed that they could qualify for the now greater DI benefits.\textsuperscript{36} For example, before a change in the retirement age a worker who is a year away from the full retirement age, and who would qualify for DI but is unsure of that outcome, may choose to wait and only receive Old Age benefits. Once the full retirement age is raised, this worker may choose to apply for DI, rather than waiting to receive retirement benefits. The greater the benefit disparity between the two programs, the more likely it may be that DI applications and enrollment will increase. Thus, the potential for an increase in DI program costs exists with any reform elements that decrease the generosity of the Old Age component of OASDI without a corresponding decrease in that of the DI component.\textsuperscript{37}

Under current law, there may already be an incentive for older workers to apply for DI rather than retire early. Using individual level data from the simulation model, we analyzed the benefits of two similar individuals under current law and under price indexing with and without full and partial exemptions. Both of the simulated individuals had similar lifetime earnings, close to the median for the simulated 1985 cohort, and both would have received initial benefits at age 62. However, they differed in two significant ways: one retired at age 62, while the other was disabled at age 62, and the retiree had lower lifetime benefits under current law.\textsuperscript{38} The retiree, who died at age 84, had lifetime benefits of about $433,000, while

\textsuperscript{36}Some research has been done on whether there is a link between the increase in the FRA and the recent increase in the number and percentage of people applying for DI. For example, Duggan, Singleton, and Song (2005) find that the 1985 increase in the FRA had an important effect on the percent of people applying for DI.

\textsuperscript{37}Besides incentive-related costs, increasing the FRA would create other costs for the DI program by expanding the size of the DI-eligible population. Workers who remain in the workforce past the old FRA and become injured prior to the new FRA may enroll in the DI program.

\textsuperscript{38}In part, this may be because the retired individual chose to retire early (at age 62) and thus his benefits were actuarially reduced. In addition, while the present value of the individuals’ lifetime earnings were similar, the distribution of these earnings could have been different and as such, the average indexed monthly earnings used as the basis for determining benefit amounts could be different.
the disabled worker, who died at age 82, had lifetime benefits of about $505,000—about 16 percent higher than those of the retired worker.

A full exemption for disabled workers from certain reform elements could similarly create discrepancies between the two programs, resulting in incentives to apply for the DI program. Under price indexing, the lifetime benefits of both individuals would be reduced, but the relative difference would remain at about 16 percent. However, if disabled workers were fully exempted from price indexing, the simulated disabled worker’s lifetime benefits would be back to the initial amount of $505,000, or 72 percent greater than those of the retired worker. This difference in potential benefits would likely increase the incentive to apply for the DI program. Figure 12 and table 4 show the total lifetime benefits and the average monthly benefits of these two simulated individuals under current law, price indexing, and with exemptions.
Figure 12: Simulated Total Lifetime Benefits for Two Similar Individuals Who Began Receiving Benefits at Age 62, Exemptions Apply to Disabled Workers (1985 Cohort)

Source: GAO analysis of GEMINI data.

Table 4: Total Lifetime and Average Monthly Benefits of Two Simulated Individuals Who Began Receiving Benefits at Age 62, Exemptions Apply to Disabled Workers (1985 Cohort)

<table>
<thead>
<tr>
<th>Total lifetime benefits</th>
<th>Average monthly benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired worker</td>
<td>Disabled worker</td>
</tr>
<tr>
<td>Current law</td>
<td>$433,000</td>
</tr>
<tr>
<td>Price indexing</td>
<td>$293,000</td>
</tr>
<tr>
<td>Full exemption</td>
<td>$293,000</td>
</tr>
<tr>
<td>Partial exemption</td>
<td>$293,000</td>
</tr>
</tbody>
</table>

Source: GAO analysis of GEMINI data.
However, partial rather than full exemptions or other protections, such as an age-indexed super COLA, could provide benefit protections without substantially increasing the disparity between the programs for people approaching the early or full retirement ages. Under a partial exemption, in which the disabled worker would be exempted from the reform until full retirement age, the added incentive that could be created by a full exemption would be reduced. Such a partial exemption for the disabled worker in our example would result in lifetime benefits that are about 33 percent higher than those of the retired worker under price indexing.

**Certain Protections May Affect the Work Decisions of Beneficiaries**

The family maximum limits the amount that can be received off of a worker’s record. This limit is compatible with the incentive for individuals to work. Changing such a limit could affect beneficiaries’ work decisions. For example, protecting benefits of dependents by increasing the family maximum could affect an individual’s work decisions. Under the current family maximum with a benefit reduction in place, if a person chooses to work 30 hours a week, an increase in the total amount a family (or individual dependents) could receive might affect this decision and decrease the person’s time in the workforce. In such a case, the individual may find that the increase in the benefits received would allow for fewer weekly hours of work without a change in total income. In addition, protections that increase the benefits of disabled workers, such as the super COLA, can also create disincentives for such beneficiaries to return to work. As such, some individuals may continue to rely on the DI program, rather than finding a way to re-enter the workforce.

**Conclusions**

Social Security’s financial challenges may result in program modifications that may include benefit reductions. These benefit reductions will likely affect all beneficiaries, including vulnerable individuals who may not be able to adjust to these reductions or who rely on Social Security as their primary source of income. While protecting the benefits of vulnerable populations may be desirable, such action does come at a cost. Further benefit reductions or revenue increases would be needed to achieve program solvency. These offsets, in turn, may create new financial vulnerabilities among other beneficiaries who would bear the burden of these protections.

Few reform proposals consider the impact that benefit reductions would have on all beneficiary types, instead treating all beneficiaries similarly. However, some special consideration should be given to the effects of the reform on the benefits of the most vulnerable, especially when these
individuals are disproportionately affected. If the solution to Social Security’s financing problems includes benefit reductions, then the equal treatment of all beneficiaries may need to be reconsidered, and the complex interactions of benefit reductions, protections, and direct and indirect costs to the system and to other retirees will need to be weighed carefully. Benefit protections can be a part of a comprehensive reform package and the reform debate should consider the design, inclusion, and implications of such measures to assure income adequacy. Likewise, to the extent that Social Security aligns the disability program with the current state of science, medicine, technology, and labor market conditions, such modernization should also be considered.

Accordingly, in light of potential reform, Congress should consider the potential implications of reform on disability and dependent beneficiaries. Such a review might usefully be coordinated with any modernization of the Social Security disability program.

We provided a draft of this report to SSA and the Department of the Treasury, which generally agreed with our findings. Both provided technical comments, and SSA also provided general comments, which appear in appendix III. We incorporated the comments throughout our report as appropriate.

In general, SSA concurred with the methodology, overall findings, and conclusions of the report. However, SSA felt that the report could benefit from a more direct comparison of disabled beneficiaries and retired beneficiaries (and a similar construct for dependents). While such a comparison could be beneficial and give context to the reform discussion, this report was premised on the notion that certain beneficiaries would be less able to offset benefit reductions, rather than a comparison of relative welfare.

Finally, GAO agrees that one could better assess the degree to which a reform element or protection option support the program’s goal of adequacy if benefits were compared to a standard of adequacy; however such a comparison was beyond the scope of the current study.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution until 30 days after the date of this letter. At that time, we will send copies of this report to the Social Security
Administration and the Department of the Treasury, as well as other interested parties. Copies will also be made available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov. Please contact me at (202) 512-7215, if you have any questions about this report. Other major contributors include Michael Collins, Nagla’a El-Hodiri, Jennifer Gregory, Joe Applebaum, Melinda Cordero, Mark Goldwein, Meaghan Mann, and Dan Schwimer.

Barbara D. Bovbjerg
Director, Education, Workforce, and Income Security Issues
## Microsimulation Model

To analyze the effects of individual reform elements and certain protections from these reforms on Social Security benefit levels for disabled workers and dependents, we simulated their benefits using the Policy Simulation Group’s (PSG) microsimulation models. We based our analysis on projected lifetime benefits for a simulated 1985 birth cohort. In order to have a point of comparison, we also used the microsimulation models to simulate Social Security benefits of retirees who receive benefits on their own record.

## Description

For our simulations, we used the PSG’s Social Security and Accounts Simulator (SSASIM) and Genuine Microsimulation of Social Security Accounts (GEMINI) simulation models. GEMINI simulates Social Security benefits and taxes for large representative samples of people born in the same year. GEMINI simulates all types of Social Security benefits including retired workers’, spouses’, survivors’, and disability benefits. It can be used to model a variety of Social Security reforms. GEMINI uses inputs from SSASIM, which has been used in numerous GAO reports, and from the Pension Simulator (PENSIM), which was developed for the Department of Labor. GEMINI relies on SSASIM for economic and demographic projections and relies on PENSIM for simulated life histories of large representative samples of people born in the same year and their spouses. Life histories include educational attainment, labor force participation, earnings, job mobility, marriage, disability, childbirth, retirement, and death. Life histories are validated by PSG against data from the Survey of Income and Program Participation, the Current Population Survey, Modeling Income in the Near Term (MINT3), and the Panel Study of Income Dynamics. Additionally, any projected statistics (such as life expectancy, employment patterns, and marital status at age 60) are, where possible, consistent with intermediate cost projections from Social Security Administration’s Office of the Chief Actuary.

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2While these models use sample data, our report, like others using these models, does not address the issue of sampling errors. The results of the analysis reflect outcomes for individuals in the simulated populations and do not attempt to estimate outcomes for an actual population.

3MINT3 is a detailed microsimulation model developed jointly by the Social Security Administration, the Brookings Institution, RAND, and the Urban Institute to project the distribution of income in retirement for the 1931 to 1960 birth cohorts.
Appendix I: Methodology

(OCACT). At their best, such models can provide only very rough estimates of future incomes. However, these estimates may be useful for comparing future incomes across alternative policy scenarios and over time.

For this report, we used the Genuine Microsimulation of Social Security Accounts (GEMINI) to estimate Social Security benefits for a sample of approximately 2 percent of individuals born in the 1985 cohort. This consisted of just over 97,000 individuals, with positive benefit levels for just over 83,400 individuals.

For our baseline, benefits were simulated under current law. These simulations are based on the Social Security Trustees' 2007 intermediate economic and actuarial assumptions. While our simulations provide projections of future retirement income, as promised under current law, there is a considerable amount of uncertainty involved with these estimates. Since these estimates could change significantly, depending on assumptions used and behavior responses, they should not be considered predictions. In addition, because simulations are sensitive to economic and demographic assumptions, it is more appropriate to compare benefits across the scenarios than to focus on the actual estimates themselves.

Evaluating Reform Proposals

In general, GAO has suggested that policy makers should consider three basic criteria when evaluating reform proposals:

- the extent to which the proposal achieves sustainable solvency and how the proposal would affect the economy and the federal budget;
- the balance struck between the goals of individual equity (rates of return on individual contributions) and income adequacy (level and certainty of monthly benefits); and

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Appendix I: Methodology

- how readily such changes could be implemented, administered, and explained to the public.

Moreover, reform proposals should be evaluated as packages that strike a balance among the individual elements of the proposal and the interactions among these elements. The overall evaluation of any particular reform proposal depends on the weight individual policy makers place on each of the above criteria.

However, for the purposes of this study, we did evaluate individual reform elements and individual protection options. We looked at specific elements of solvency-improving reform proposals to analyze their effects on our populations of interest—disabled workers and dependents. In particular, we wanted to isolate each element in order to project the magnitude of their effects on these populations and in order to model certain protection options. Nevertheless, we recognize that there would be important interactive effects with any set of reforms and maintain the importance of considering all possible effects of any reform package as a whole.

### Assumptions and Limitations

Simulating retirement income almost 50 years into the future requires many assumptions and simplifications and, consequently, our simulations have a number of limitations. A primary limitation of our analysis is that our simulations do not include important components of retirement income, such as personal savings, earnings in retirement, health benefits, and other public assistance programs such as SSI. These sources could also be used to offset benefit reductions. In addition, the model is structured such that changes in Social Security benefits have no behavioral consequences in terms of decisions regarding work, disability, or retirement. As a result, the individuals would not change their work decisions (earnings/retirement) based on the reforms.

The simulations are based on economic and demographic assumptions from the 2007 Social Security Trustees’ report. We used Trustees’ intermediate assumptions for inflation, real wage growth, mortality decline, immigration, labor force participation, and interest rates.

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Appendix I: Methodology

Specification of Disabled Workers and Dependents

For the purpose of this analysis:

**Disabled Workers** consisted of those individuals who had a valid disability onset age and who received a positive amount of benefits from Disability Insurance. This includes any disabled workers who were dependents at some point in time.

**Dependents** consisted of those individuals who received benefits based on someone else’s earnings record, at any point. Specifically, dependents excluded those who only received benefits based on their own record as retirees or as disabled workers.

Description of Social Security Reform Elements

Longevity Indexing

To simulate longevity indexing, which links the growth of initial benefits to changes in life expectancy, we successively modified the PIA formula replacement factors (90, 32, 15) beginning in 2009, reducing them annually by multiplying them by 0.995. This specification mimics provision 1 of Model 3 of the President’s Commission to Strengthen Social Security (CSSS).\(^8\) The CSSS solvency memorandum notes that the 0.995 successive reductions “reduces monthly benefit levels by an amount equivalent to increasing the normal retirement age (NRA) for retired workers by enough to maintain a constant life expectancy at NRA, for any fixed age of benefit entitlement.”\(^9\) This provision as specified and scored—using the intermediate assumptions of the 2001 Trustees’ report—in the CSSS memo by SSA’s Office of the Chief Actuary would improve the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 1.17 percent of taxable payroll.

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\(^8\)For more information on provision 1 or Model 3, see page 8 of the CSSS proposal at http://www.ssa.gov/OACT/solvency/PresComm_20020131.pdf.

\(^9\)We chose the CSSS specification because it was already scored and readily available. Other constructions or interpretations of a longevity index are certainly possible. For example, life expectancy at birth or some other age could be used. Further, life expectancy could be defined as period or cohort. A period life table represents the mortality conditions at a specific point in time, whereas a cohort table depicts the mortality conditions of a specific group of individuals born in the same year or series of years.
Appendix I: Methodology

Price Indexing

We also simulated the effects of price indexing, where initial benefits would be indexed to the consumer price index (CPI) in order to limit the growth of benefits. We successively modified the primary insurance amount (PIA) formula replacement factors (90, 32, and 15) beginning in 2012, reducing them successively by real wage growth in the second prior year. This specification mimics provision B6 of the August 10, 2005, memorandum to SSA’s Chief Actuary regarding the provision requested by the Social Security Advisory Board (SSAB), which is an update of provision 1 of Model 2 of the CSSS. As noted in the CSSS’s solvency memorandum from SSA’s Chief Actuary, “[t]his provision would result in increasing benefit levels for individuals with equivalent lifetime earnings across generations (relative to the average wage level) at the rate of price growth (increase in the CPI), rather than at the rate of growth in the average wage level as in current law.” This provision as specified and scored by OCACT in the SSAB memo would improve the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 2.38 percent of taxable payroll.

Progressive Price Indexing

To simulate the effects of implementing a progressive price index, we mimicked provision B7 of the August 10, 2005, memorandum to SSA’s Chief Actuary. We created a new bend point at the 30th percentile of earnings, beginning in 2012. We maintained current-law benefits for earners at the 30th percentile and below. We also maintained the lower two PIA formula replacement factors (90 and 32). We reduced the upper two PIA formula replacement factors (32 and 15) so that maximum worker benefits from one generation to the next grew by inflation rather than the growth in average wages. This provision as specified and scored by OCACT would improve the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 1.43 percent of taxable payroll.

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Appendix I: Methodology

Increase the Number of Computation Years Used in the Initial Benefit Calculation

In our modeling of this reform element, we gradually reduced the number of drop out years from 5 to 0, thereby extending the number of computation years from 35 to 40. The number of computation years would increase to 36 in 2007, 37 in 2008, 38 in 2010, 39 in 2012, and 40 in 2014. This specification mimics provision B2 of the August 10, 2005 memorandum to SSA’s Chief Actuary. This provision as specified and scored by OCACT would improve the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 0.46 percent of taxable payroll.

Reduction in the Cost-of-Living Adjustment

We also simulated a reduction in the cost-of-living adjustment (COLA) of one percentage point, beginning in 2012. This specification mimics provision A2 of the August 10, 2005, memorandum to SSA’s Chief Actuary. This provision as specified and scored by OCACT would improve the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 1.49 percent of taxable payroll. Some reform proposals have called for reducing the COLA by about 0.2 percent to 0.4 percent, in response to methodological concerns that the CPI for urban wage earners and clerical workers, the current CPI measure used to adjust benefits, overstates inflation. The intent of these proposals is to implement a COLA that may more accurately reflect inflation.


We did make one adjustment to this provision. We modeled the change beginning in 2012 so that the simulation start date was consistent with the start date for price indexing and progressive price indexing.
Description of Protection Options

Table 5: Options for Protecting Disabled Worker and Dependent Benefits from Social Security Reform

<table>
<thead>
<tr>
<th>Protection option available for</th>
<th>Protection option</th>
<th>How the protection option could work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any beneficiary type</td>
<td>Full exemption</td>
<td>The beneficiary would not be subject to reform. Benefits would be unchanged.</td>
</tr>
<tr>
<td></td>
<td>Partial exemption</td>
<td>Benefits would not be subject to reform until a certain point in time. At this point in time, benefits would be adjusted to reflect reform.</td>
</tr>
<tr>
<td></td>
<td>Minimum benefit</td>
<td>Beneficiaries would be guaranteed a specified minimum benefit level.</td>
</tr>
<tr>
<td></td>
<td>Super COLA</td>
<td>A larger COLA would be applied to benefits to partially mitigate reductions.</td>
</tr>
<tr>
<td></td>
<td>Age-indexed super COLA</td>
<td>Works similarly to the super COLA. However, this COLA would vary in size, with younger beneficiaries receiving larger adjustments.</td>
</tr>
<tr>
<td>Children and families of disabled workers</td>
<td>Increase the percentage of the worker’s benefit that the dependent family member receives as his/her benefit</td>
<td>Children and spouses receiving benefits from a parent’s or spouse’s earnings record receive a set percentage of their parent’s or spouse’s benefits as their benefit. This option would increase the size of this percentage.</td>
</tr>
<tr>
<td></td>
<td>Increase the family maximum benefit level for DI</td>
<td>Families would be subject to a higher family maximum benefit level if they receive benefits off the earnings record of a disabled worker.</td>
</tr>
<tr>
<td></td>
<td>Increase the percentage of the worker’s benefit that a dependent child or a disabled adult child (DAC) receives as his/her benefit in combination with increasing the family maximum benefit</td>
<td>This option would increase the percentage used to determine a dependent child or DAC’s benefit level while also increasing the family maximum benefit level.</td>
</tr>
<tr>
<td></td>
<td>Decouple DAC benefits from other family benefits</td>
<td>This option would exclude DAC benefits from the family benefit calculation. While a DAC would continue to receive benefits based from his/her parent’s earnings record, DAC benefits would not be included in the calculation of total family benefits when determining whether family benefits have exceeded the maximum family benefit.</td>
</tr>
<tr>
<td>Children and families of retired workers</td>
<td>Hold initial benefit amount harmless for family benefits</td>
<td>If reform adjusts the initial benefit amount for a disabled worker, the amount used for calculating the benefits for any dependent of a disabled worker would be unchanged.</td>
</tr>
<tr>
<td></td>
<td>Expand eligibility rules for divorced spouses</td>
<td>This option would alter eligibility rules for divorced spouses (e.g. shorten the duration of marriage requirement for the divorced spouse to receive benefits from his/her spouse’s earnings record).</td>
</tr>
<tr>
<td></td>
<td>Increase the percentage of the worker’s benefit that the dependent family member receives as his/her benefit</td>
<td>Children and spouses receiving benefits from a parent’s or spouse’s earnings record receive a set percentage of their parent’s or spouse’s benefits as their benefit. This option would increase the size of this percentage.</td>
</tr>
</tbody>
</table>
### Protection option available for

<table>
<thead>
<tr>
<th>Protection option</th>
<th>How the protection option could work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the percentage of the worker’s benefit that a dependent child or DAC receives as his/her benefit in combination with increasing the family maximum benefit</td>
<td>This option would increase the percentage used to determine a dependent child or DAC’s benefit level while also increasing the family maximum benefit level.</td>
</tr>
<tr>
<td>Decouple DAC benefits from other family benefits</td>
<td>This option would exclude DAC benefits from the family benefit calculation. While a DAC would continue to receive benefits based from his/her parent’s earnings record, DAC benefits would not be included in the calculation of total family benefits when determining whether family benefits have exceeded the maximum family benefit.</td>
</tr>
<tr>
<td>Increase the percentage of the worker’s benefit that the spouse receives as his/her benefit</td>
<td>Husbands and wives receiving benefits from their spouses’ earnings records receive a set percentage of their spouses’ benefits as their benefit. This option would increase the size of this percentage.</td>
</tr>
<tr>
<td>Implement a child/family care credit</td>
<td>A child/family care credit could be work in one of three ways: Reduce the number of computation years for caregivers: A certain number of years would be “dropped” from the initial benefit level calculation to credit years an individual spent caring for children or other dependent family members. Credit caregivers a particular dollar amount for years spent out of the labor force providing care to children: Earnings used to calculate an individual’s initial benefit level would be adjusted upward for a particular number of years. Provide caregivers with a credit equal to 1/2 of median worker earnings for the years spent working part-time or earning low incomes because caring for children or other family members: Replaces years with no or low earnings, up to a certain number of years. Alternatively, instead of using 1/2 of median worker earnings as the replacement, could use 1/2 of the median earnings from a caregiver’s remaining work years.</td>
</tr>
<tr>
<td>Hold initial benefit amount harmless for family benefits</td>
<td>If a reform adjusts the initial benefit amount for a primary beneficiary, the amount for calculating the benefits for any survivor of a worker would be unchanged.</td>
</tr>
<tr>
<td>Hold early survivors (young children or young widow(er)s) harmless</td>
<td>Early survivors would not be subject to any benefit change resulting from reform.</td>
</tr>
<tr>
<td>Increase the surviving spouse benefit to 2/3 or 3/4 of the combined couples’ benefit</td>
<td>This option would increase the size of the benefit a surviving spouse receives to 2/3 or 3/4 of what the couples’ combined benefit would have been.</td>
</tr>
<tr>
<td>Increase benefits for aged survivors</td>
<td>This option increases the size of benefits older survivors receive.</td>
</tr>
<tr>
<td>Increase the early retirement age</td>
<td>This option would increase the early retirement age. Survivors’ benefits are based on workers’ benefit. If a worker takes benefits during the early retirement period, then the monthly benefit level is reduced. By increasing the early retirement age, a worker wouldn’t be able to receive as large a reduced monthly benefit or receive benefits for as long a period of time. Accordingly, any survivor’s benefit would be larger.</td>
</tr>
</tbody>
</table>

Source: GAO.
## Options Modeled to Protect Benefits of Disabled Workers

<table>
<thead>
<tr>
<th>Partial Exemptions</th>
<th>Full Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial Exemption Type I—</td>
<td>To simulate the effects of fully exempting disabled workers from the various reform elements, we modified the simulation to exclude the benefits</td>
</tr>
<tr>
<td>Kolbe-Stenholm</td>
<td>of disabled workers from the reform elements. As such, there would be no recalculation of benefits when the exempted beneficiary reached full retirement age.</td>
</tr>
<tr>
<td></td>
<td>We defined partial exemptions for disabled workers to mean that their benefit would be exempted from any simulated reform until the FRA and then would be recalculated. For the COLA reduction, we simply started the one percentage point reduction at the FRA for disabled workers. However, for the reforms that involved a change in the initial benefit amount (longevity indexing, price indexing, and progressive price indexing), we simulated the recalculation of benefits at the FRA in two different ways.</td>
</tr>
</tbody>
</table>

The first partial exemption, which we refer to as Partial Exemption Type I, followed the Kolbe-Stenholm model of converting benefits at the FRA. The Kolbe-Stenholm model reduces benefits in proportion to the difference in the disabled-worker PIA and the retired-worker PIA at the DI-onset age. This OASI benefit amount would be indexed by the COLA to for the years between the disability onset age and age 62.
Partial Exemption Type II—Graham

The second partial exemption, or Partial Exemption Type II, followed the Graham model of converting benefits at the FRA. The mechanism for converting from DI to Old Age benefits is as follows:

\[
\frac{DI_c \cdot Y_D}{40} + \frac{OASI_{62} \cdot (40 - Y_D)}{40}
\]

where:

- \(DI_c\) is the promised DI benefit level under current law
- \(Y_D\) is the number of years (ages 21 to 62) that the disabled worker received DI benefits
- \(OASI_{62}\) is the OASI benefit level, calculated by computing the PIA under the reform using the formula applicable for newly eligible retired workers in the year the converting worker reached age 62. In this case, earnings from the years prior to disability would be wage indexed. The disability freeze years\(^{14}\) would apply in computing the AIME.

Data Reliability

To assess the reliability of simulated data from GEMINI, we reviewed PSG’s published validation checks and examined the data for reasonableness and consistency.

PSG has published a number of validation checks of its simulated life histories. For example, simulated life expectancy is compared with projections from the Social Security Trustees; simulated benefits at age 62 are compared with administrative data from SSA; and simulated

\(^{14}\)The disability freeze is a special rule that helps increase retirement or disability benefits. People who have a disability or are legally blind, not on DI, and working may have lower earnings because of the disability or blindness. In such a case, SSA can exclude those years when calculating retirement or disability benefits. Because Social Security benefits are based on average lifetime earnings, the exclusion of those years increases benefits.
educational attainment, labor force participation rates, and job tenure are compared with values from the Current Population Survey. We found that simulated statistics for the life histories were reasonably close to the validation targets.
Appendix II: Calculating OASDI Benefits

Social Security offers a variety of types of benefits, and although they are all based upon the same formula, they are calculated in different ways. The methods for calculating the different types of benefits are outlined below.

Calculating Old-Age Benefits

Old Age benefits are calculated through a four-step process in order to provide retirees with progressive yet wage-based cash payments (see fig. 13).

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1To summarize the calculation of benefits, we relied on several Social Security publications, including the Social Security Handbook and a variety of resources available on SSA’s website, www.ssa.gov.
Appendix II: Calculating OASDI Benefits

Figure 13: Calculating Benefits for Retirees

1 Calculate AIME
   All past earnings are indexed to wage growth, and a worker’s 35 highest-earning years are averaged

2 Calculate PIA
   For 2007, the PIA is the sum of:
   - 90% of first $680 of AIME
   - 32% of next $3,420 of AIME
   - 15% of remaining AIME

3 Age of retirement
   - Age 62 to FRA
   - Full retirement age (FRA)

3a Adjust PIA for early retirement
   PIA reduced .56% per month for 3 years preceding FRA and .42% per month for additional months prior to those 3 years.

3b No adjustment in PIA
   Subsequent benefits are increased every year to keep pace with the growth in prices (CPI)

3c Adjust PIA for delayed retirement
   PIA increases .66% a month (differs if born before 1943)

4 COLA adjustment

Earnings test

Earnings above an exempt amount will cause reduction in Social Security benefits

Source: GAO.

Notes: Specifically, Social Security’s COLAs are based on the consumer price index for urban wage earners and clerical workers (CPI-W), as opposed to the CPI series for all urban consumers (CPI-U).

Also the PIA numbers in step 2 refer to workers attaining age 62 in 2007.

First a worker’s Average Indexed Monthly Earnings (AIME) is calculated by indexing the worker’s past earnings to changes in average wage levels over the worker’s lifetime and then averaging them. The AIME formula considers all years in which a worker earned covered earnings. It then

2Years with wages greater than those earned from 21 to 62 would also be considered as long as the worker had “credited” earnings.
Appendix II: Calculating OASDI Benefits

uses the number of elapsed years from 1950 or attainment of age 21 through the age of 62 (or death) and allows for 5 “drop-out years” so that the worker’s highest 35 years of covered indexed earnings are used in the calculation. Once the AIME is determined, a progressive formula is applied to the AIME to yield a worker's Primary Insurance Amount (PIA). In 2007, the PIA formula had the following bend points: 90 percent of the first $680 of AIME, plus 32 percent of the next $3,420, and 15 percent of any earnings above that level (fig. 13). For example, the PIA of a worker whose AIME was $1000, the equivalent of at $12,000 annual salary, would be the sum of $612 (90 percent of $680) and $102.40 (32 percent of $320), yielding a total initial monthly benefit of around $715. Similarly, the PIA of a worker with an $8,000 AIME (the equivalent of a $96,000 annual salary) would be the sum of $612 (90 percent of $680), $1094.40 (32 percent of $3420), and $585 (15 percent of $3,900), for a total of just under $2,292. Because the formula is both wage-based and progressive, the second worker receives a much higher actual benefit than the first worker ($2,292 versus $715), but his benefits are much lower proportion of his past earnings than the first worker’s benefits (28.6 percent versus 71.4 percent).

If a worker retires at the full retirement age, which is currently between ages 65 and 66, and legislated to reach 67 in 2027, this PIA represents the first year’s benefit (although it is adjusted for inflation through a cost-of-living adjustment (COLA)). However, workers can begin receiving reduced benefits at 62; benefits are progressively larger for each month workers postpone drawing them, up to age 70. In general, benefits are actuarially neutral to the Social Security program; that is, the reduction for starting benefits before full retirement age and the credit for starting after full retirement age are such that the total value of benefits received over one’s

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3For example, if a worker had some of his or her highest covered earnings between the ages of 18 and 22, these would be counted. The 40 years between age 22 and 62 simply give the formula the number of years to consider when picking the top earning years.

4SSA reduces retired worker benefits by 5/9 of 1 percent per month for the first 36 months and 5/12 of one percent for each additional month that a worker elects to start benefits in advance of full retirement age. Conversely, delayed retirement credits increase benefits for each month the worker delays the start of benefits after full retirement age until they reach age 70. The factor used to calculate these credits varies by birth year. For workers born in 1943 or later the increase is 2/3 of 1 percent each month (8 percent per year).
Appendix II: Calculating OASDI Benefits

lifetime is approximately equivalent for the average individual.\(^5\) Those receiving benefits before the full retirement age will also be subject to an earnings test. If earned income is above a certain threshold, Social Security withholds one dollar of benefits for every two dollars of earning above the threshold. Each year, benefits receive a COLA to keep pace with inflation.

Similarly to Old Age benefits, disability benefits are determined by calculating a worker’s AIME, applying the progressive PIA formula to it, and then adjusting benefit levels through yearly COLAs (fig. 14).

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\(^5\)This is the case if lifetime benefits are calculated on a present value basis with a discount rate equal to the expected return for the Social Security trust fund—that is, 2.9 percentage points above the rate of inflation after 2015, according to the intermediate assumptions in the Trustees’ 2007 report—The Board of Trustees, Federal Old Age and Survivors Insurance and Federal Disability Insurance Trust Funds, The 2007 Annual Report of the Board of Trustees of the Federal Old Age and Survivors Insurance and Federal Disability Insurance Trust Funds (Washington, D.C.: Apr. 23, 2007) 94.
However, because disabled workers are likely to have shorter work histories, their benefits calculation relies on fewer years of earnings. In general, the number of years of earnings used to calculate the AIME is based on the total number of years between when a worker turns 21 and when he applies for DI. If this number of years is 25 or more, a worker’s 5 lowest (or zero) earnings years will be dropped from the calculation. The number of drop-out years gradually declines as a worker applies for disability earlier in life. If the disabled worker is 60 at the time of application, for example, 38 years would have elapsed since age 21. He will receive 5 drop out years, and his AIME will be calculated based upon his 33 highest-earning years. In contrast, if a worker applies for DI at 32, he would have only had 10 elapsed years since age 21, and only be eligible for 2 drop-out years; his AIME would be calculated based upon his top 8 years. At the full retirement age, disabled workers begin receiving retirement benefits, instead of disability benefits; however, benefit levels remain the same and continue to grow through annual COLAs.
Calculating Benefits for Dependents of Retired and Disabled Workers

- **Spouses**: In addition to being eligible to receive retirement benefits on their own earnings records as early as age 62, individuals can also receive dependents' benefits at age 62, based on their spouse's benefit amount or, in some cases, that of an ex-spouse (table 5). These individuals can collect these benefits regardless of whether their spouse is concurrently receiving retired or disabled worker benefits. If collection begins at full retirement age, these individuals are eligible for either one-half of their spouse's benefit amount, or the benefits based on their own earnings record; whichever is greater. As with Old Age benefits, adjustments are made if these individuals chooses to take early retirement.

- **Dependent Children**: Dependent children may also qualify for one-half of their retired or disabled parent's benefit amount. This benefit is available for disabled adult children who are not working on a regular basis, children under age 18, or children still in high school and under age 19.

Like other benefits, dependents' benefits receive annual COLAs. Dependent benefits are subject to a family maximum, whereby a family is limited in the total amount of benefits that can be received from a single individual's earnings record. The size of the family maximum is currently between 150 percent and 188 percent of the primary beneficiary’s benefit.6

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6The formula used to compute the OASI family maximum is similar to that used to compute the PIA. It involves computing the sum of four separate percentages of portions of the worker's PIA. For 2007, these are 150 percent of the first $869, 272 percent of the amount between $869 and $1,255, 134 percent of the amount between $1,255 and $1,636, and 175 percent of the amount over $1,636. The disability family maximum is equal to 85 percent of the disabled worker’s AIME, but cannot be less than his or her PIA, nor more than 150 percent of his or her PIA.
### Table 6: Dependent Benefits

<table>
<thead>
<tr>
<th></th>
<th>Worker retires or becomes disabled</th>
<th>Worker dies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child of worker</td>
<td>Can collect 50% of worker’s benefits if under 18, in high school, or disabled</td>
<td>Can collect 75% of worker’s benefits if under 18, in high school, or disabled</td>
</tr>
<tr>
<td>Spouse of worker</td>
<td>Can collect 50% of worker’s benefits at FRA or reduced amount at age 62</td>
<td>Can collect 100% of worker’s benefit at FRA or reduced amount at age 60</td>
</tr>
<tr>
<td>Spouse taking care of young or disabled child</td>
<td>Can collect 50% of worker’s benefits at any age</td>
<td>Can collect 75% of worker’s benefits if not eligible for more through other provisions</td>
</tr>
<tr>
<td>Disabled spouse</td>
<td>No special provision</td>
<td>Can collect 100% of worker’s benefits at age 50</td>
</tr>
<tr>
<td>Ex-Spouse of worker</td>
<td>Can collect normal spousal benefits if marriage lasted longer than 10 years and dependent is unmarried</td>
<td>Can collect normal spousal benefits if marriage lasted longer than 10 years and survivor is unmarried</td>
</tr>
<tr>
<td>Parent of worker</td>
<td>No special provision</td>
<td>Can collect 75% or 82.5% (if only one parent is entitled) of worker’s benefits if parent is age 62 or above, and dependent on worker for over half of income</td>
</tr>
</tbody>
</table>

Source: GAO.

Note: All benefits, except those for divorcees, are subject to the family maximum. A spouse can collect benefits on his own earnings record, if this amount is greater than the corresponding dependent benefits.

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### Calculating Survivors’ Benefits

Widow(er)s may be eligible to receive a one-time death benefit of $255. In addition, widow(er)s, surviving parents, children under the age of 18 (19 if the child is still in school) and disabled adult children can collect benefits off of the deceased person’s earnings record. A widow(er) at full retirement age will receive 100 percent of his or her spouse’s benefits, unless his or her own benefit is higher. Younger widow(er)s (those between age 60 and the full retirement age) can receive between 71 and 99 percent of their deceased spouses’ benefits depending on how close they are to the full retirement age. Furthermore, regardless of age, a widow(er) with young children, can receive 75 percent of the deceased

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7Widow(er)s who begin collecting benefits at age 60 receive 71 percent of their deceased spouses’ benefit amount, and this percentage increases for every year they delay collecting survivors benefit, reaching 100 percent at the FRA.
Appendix II: Calculating OASDI Benefits

spouse’s benefit. Surviving parents and children can also collect up to 75 percent of their deceased family members’ benefits. All of these benefits receive annual COLA adjustments and are subject to the family maximum.
Appendix III: Comments from the Social Security Administration

SOCIAL SECURITY
The Commissioner

October 17, 2007

Ms. Barbara D. Bovbjerg
Director, Education, Workforce, and Income Security Issues
U.S. Government Accountability Office
Washington, D.C. 20548

Dear Ms. Bovbjerg:

Thank you for the opportunity to review and comment on the draft report, "Social Security Reform: Issues for Disability and Dependent Benefits" (GAO-08-26).

If you have any questions, please contact Ms. Candace Skurnik, Director, Audit Management and Liaison Staff, at (410) 965-4636.

Sincerely,

[Signature]

Michael J. Astrue

Enclosure
Appendix III: Comments from the Social Security Administration

COMMENTS ON THE GOVERNMENT ACCOUNTABILITY OFFICE (GAO) DRAFT REPORT, “SOCIAL SECURITY REFORM: ISSUES FOR DISABILITY AND DEPENDENT BENEFITS” (GAO-08-26)

Thank you for the opportunity to review and comment on the draft report. This report is very complete and gives a good overview of the potential effects of various reforms. However, the report would benefit from a better framing of the discussion with some context. While we would not expect an exhaustive analysis of the disability/dependent population, the following questions could be addressed:

- Are the current disabled beneficiaries worse off than the current retired beneficiaries?
- How about dependents? Where do dependents rank economically as compared to the general population?

General and Technical Comments

The GAO methodology involves compiling data from different sources and performing simulations, computations, and analyses. It would require a considerable amount of time, with complete access to GAO’s data, mathematical derivations, and detailed computer logic, in order to determine whether or not the GAO results are technically correct. It would be helpful if the report provided information on the magnitude of estimation errors (e.g., upper bounds) for the benefit reduction estimates computed under the respective proposals.

In considering the options used to protect the benefits of disabled and dependent individuals, GAO should consider whether such options (especially if they distinguish between classes of persons based on age, disability, or other protected class) could violate the due process or equal rights of any particular class members.

There are several references to (and/or explanations of) how various benefits are calculated under the Social Security Act, and how individuals qualify for such benefits. However, there are no citations to the relevant, controlling authorities; i.e., the Social Security Act and Title 20 of the Code of Federal Regulations. This report would benefit from citations to the applicable source when such issues are discussed.

In describing the provision that reduces the cost-of-living adjustment, the phrase “one percent reduction” is used throughout this report. We suggest that this phrase be replaced with “one percentage point reduction.”

Page 5, the last sentence, “...the Social Security program balances the goals of income adequacy with individual equity...” given the importance of benefit adequacy and equity, it seems that not much consideration was given to these issues while evaluating how disabled beneficiaries and their dependents would fare under different reform elements. Instead, the report evaluates six reform elements by measuring the benefit reductions individuals may incur. The reader could better assess the degree to which a reform option supports the disability insurance (DI) adequacy goal if GAO compared reform
benefits to a standard of adequacy (i.e., the Census poverty standard). This would gauge whether or not disabled persons and their dependents would be able to meet their basic needs with reduced benefits. Secondly, readers could better gauge the equity of reform elements if the report illustrated the distribution of benefit reductions among all disabled beneficiaries and dependents, and persons differentiated by the number of years since their date of disability onset, gender, and earnings history.
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