# Social Security 

## Memorandum

Refer to: TCA

Date: $\quad$ November 4, 2002<br>To: $\quad$ Robert C. Pozen, John Olin Visiting Professor Harvard Law School<br>From: Stephen C. Goss, Chief Actuary Alice H. Wade, Deputy Chief Actuary<br>Subject: Estimates of Financial Effects for a Three-Part Proposal to Reform the Social Security Program

This memorandum provides estimates of the financial effects of the three-part proposal you have developed for presentation in the Harvard Business Review. This new proposal includes several provisions from Model 3 developed by the President's Commission to Strengthen Social Security (PCSSS), but it also differs in several important ways. Like the PCSSS Model 3, this proposal includes voluntary personal accounts and other provisions that would assure sustainable solvency for the OASDI program throughout the next 75 years, and beyond.

Estimates of the expected effects of this proposal on selected aggregate financial measures are provided below. These include the financial operations of the combined Trust Funds of the Old-Age and Survivors Insurance (OASI) and the Disability Insurance (DI) programs, aggregate flows and accumulations for personal accounts, effects on annual Federal unified budget balances, and cash flows from the General Fund of the Treasury to the OASDI Trust Funds. Illustrations of selected individual measures (expected future total personal account accumulations and expected total benefit levels at retirement) are not included here as they would be the same as provided for PCSSS Model 3 in our memorandum dated January 31, 2002.

All estimates are based on the intermediate assumptions of the 2001 OASDI Trustees Report, with additional assumptions related to returns on private securities, individual account and annuity administrative expenses, and individual account participation rates. These assumptions are described later in the memorandum.

The new proposal is described in some detail below. As already mentioned, this proposal is based on PCSSS Model 3 with three principal modifications. The first modification is to replace dedicated transfers from the General Fund of the Treasury with an extension of the payroll tax, at a reduced rate of 3.9 percent (about one third of the full 12.4 percent
rate), above the current maximum taxable amount ( $\$ 84,900$ for 2002). The second modification is to finance the 2.5-percentage-point government contribution to personal accounts from the OASDI Trust Funds only when the ratio of Trust Fund assets exceed 200 percent of the projected cost of the program for the following year. Otherwise the government contribution would be made from the General Fund of the Treasury. The third modification is to provide additional transfers from the General Fund of the Treasury to the Trust Funds whenever the assets fall below 90 percent (rather than 100 percent) of the projected cost of the OASDI program for the following year.

## A. Proposal Specifications

The proposal is described as having three parts. The first two parts include basic provisions that would modify revenue and benefits for the current OASDI program, and would restore long-range (75-year) solvency under the intermediate assumptions of the 2001 Trustees Report. The third part would provide for voluntary personal accounts, with benefit offsets, and would include an additional provision to assure sustainable solvency for the OASDI program through the next 75 years and beyond.

Part 1. Basic Provision for Payroll Tax Contributions Above the Current Maximum
a) Under current law, the OASDI payroll tax contribution rate (for wages and salaries the contribution is split between the employee and the employer) is scheduled to be 12.4 percent of covered earnings up to the taxable maximum amount, which is $\$ 84,900$ for 2002. This provision would provide for a payroll tax contribution rate of 3.9 percent for OASDI covered earnings in excess of the current-law "full-rate" taxable maximum amount starting in 2004.
b) For the purpose of OASDI benefit computation, earnings subject to the 3.9-percent payroll tax contribution rate would be credited in a proportionate manner. Specifically, covered earnings for each year 2004 and later that are beyond the full-rate taxable maximum would be multiplied by 3.9/12.4 and added to earnings up to the full-rate taxable maximum amount. This adjusted taxable earnings amount would be used in computing the Social Security average indexed monthly earnings (AIME) used in the computation of benefit amounts.

This provision (Part 1) alone would reduce the long-range actuarial deficit by about 0.57 percent of taxable payroll. However, if earnings above the full-rate taxable maximum were not credited in computing OASDI benefits, then a similar overall financial effect would be achieved with about a 2.9 percent payroll tax contribution rate.

## Part 2. Additional Basic Provision for Solvency

a.1) Longevity-Indexed Benefits: This provision would slow the growth across generations in the primary insurance amount (PIA) for all OASDI beneficiaries by an amount that would roughly offset the effects of increasing longevity on the average
duration of benefit receipt for aged beneficiaries. Initially, PIA factors (90, 32, and 15) would be scheduled to be adjusted by a successive multiplier of 0.995 annually beginning 2009. This is about one-half the expected effect of "CPI-Indexing". This adjustment reduces monthly benefit levels by an amount that is roughly 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. Calculations of this adjustment use the mortality assumptions for the intermediate estimates of the 2001 OASDI Trustees Report and the actuarial reduction factors in current law. Under this provision, the 0.995 multiplier would be updated every 10 years (starting after 2010) to reflect actual historical increases in longevity as determined by the Social Security Administration for the most recent decade (as 2000 to 2010 for the first adjustment) and actuarial reduction factors in current law (without regard to the other provisions of this proposal). Note that this provision would apply in addition to the NRA increase already scheduled in current law. This provision alone would increase the size of the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 1.17 percent of taxable payroll.
a.2) Reduce Benefits for High Earners: Gradually reduce the third PIA factor, from 15 to 10, by 0.25 per year from 2009 through 2028. This reduction would be applied each year to the original 15 factor, prior to applying the cumulative effect of provision 1. This provision alone would increase the size of the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 0.16 percent of taxable payroll. The incremental effect of this provision after provision a. 1 would be to increase the size of the long-range OASDI actuarial balance by an estimated 0.14 percent of taxable payroll.
b) Modify Actuarial Reduction and Increment Factors: This provision is intended to provide a greater marginal incentive to work past the retirement earliest eligibility age (EEA). The chart below displays the proposed monthly early retirement reductions that would be applicable for retired worker beneficiaries for the first 36 months for which benefits are received prior to NRA under both current law and the provision. (Different factors apply to aged spouse beneficiaries and aged widow beneficiaries.)

| Age 62 in : | $\underline{2008}$ | $\underline{2009}$ | $\underline{2010}$ | $\underline{2011}$ | $\underline{2012}$ | $\underline{2013+}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Present Law | 20/36\% | 20/36\% | 20/36\% | 20/36\% | 20/36\% | 20/36\% |
| Model 3 | 20/36\% | 21/36\% | 22/36\% | 23/36\% | 24/36\% | 25/36\% |

Similar increases for aged spouse beneficiaries would be applied, increasing the monthly reduction for the first 36 months of entitlement before NRA from 25/36 percent under present law to $30 / 36$ percent under the provision.

The reductions that are proposed for the fourth and fifth year of benefit entitlement before NRA are $12 / 24 \%$ per month (current law reductions are $10 / 24 \%$ per month) for both retired worker and aged spouse beneficiaries. The reductions for the fourth and fifth year of entitlement before NRA are applicable to all new eligibles who reach age 62 after 2008.

The ultimate percentages of PIA payable for retired workers by age at initial benefit entitlement are shown in the table below.

## Ultimate Percent of PIA Payable for Retired Worker Beneficiaries by Age at Initial Entitlement to Benefits

| Age at Initial <br> Entitlement: | $\underline{\text { NRA-5 }}$ | NRA-4 | NRA-3 | NRA-2 | NRA-1 | NRA |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Present Law | 70 | 75 | 80 | 86.7 | 93.3 | 100 |
| Model 3 | 63 | 69 | 75 | 83.3 | 91.7 | 100 |

The percentage of PIA payable for non-disabled aged widow beneficiaries newly eligible at age 60 would remain at 71.5 percent. The percentages payable for those newly eligible at ages between 60 and the NRA would scale linearly between 71.5 and 100 percent, as under present law.

The delayed retirement credit (DRC) under present law is scheduled to increase to $8 \%$ per year for workers attaining age 65 after 2007. Under this provision, the DRC would continue to increase at the rate of 0.5 percentage point every two years, with the first new increase applied to those attaining age 65 in 2010. An ultimate factor of 10 percentage points per year would be reached for workers reaching 65 after 2015. The delayed retirement credit applies for those months between NRA and age 70 in which no retired worker benefit is received.
Percentage Increase in PIA Per Year of Delayed Retirement after NRA

| Age $65 \mathrm{in}:$ | $\underline{2008-09}$ | $\underline{2010-11}$ | $\underline{2012-13}$ | $\underline{2014-15}$ | $\underline{2016 ~ \& ~ l a t e r ~}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Present Law | 8 | 8 | 8 | 8 | 8 |
| Model 3 | 8 | 8.5 | 9 | 9.5 | 10 |

This provision alone would increase the size of the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 0.28 percent of taxable payroll.
c.1) Enhanced Benefit Level for Low Earners: This provision would gradually raise the PIA starting 2009 with an ultimate increase for 2018 and later of 12 percent (relative to the level provided under provisions 1 and 2 above) for 30 -year minimum wage worker. ${ }^{1}$ The combined effect of provisions a. 1 and c .1 on such workers is expected to be a PIA equal to 100 percent of the aged poverty level for 2018. Thereafter, the PIA would increase from one generation to the next at a rate that is expected to be about 0.5 percent per year faster than the growth in the CPI and the poverty level. Thus, PIA levels for such workers would be expected to rise to levels above 100 percent of the aged poverty level after 2018.

The following table illustrates the effect of the benefit enhancement for workers with low earnings.

| $\begin{array}{r} \text { Number of } \\ \text { Years of } \\ \text { Work } \end{array}$ | Effect of Provision c.1: Ultimate Percentage Increase in PIA ${ }^{1}$ for Retirees with No Period of Disability <br> Increase is Relative to PIA multiplied by 0.995 annually, Starting 2009 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | verage Earnings Level in Years Worked (2002 wage levels) |  |  |  |  |  |  |  |
|  | Quarters of | Wage |  | MinimumLow Wage X 2 |  | Medium | High Maximum |  |
|  |  |  |  |  |  |  |  |  |
|  | Coverage | \$5,000 | \$11,318 | \$15,875 | \$22,635 | \$35,277 | \$56,443 ${ }^{\text {S }}$ (84,900 |  |
|  | (QCs) |  |  |  |  |  |  |  |
| Ultimate Percentage Increase in PIA Due to Provision 3 |  |  |  |  |  |  |  |  |
| 10 | 40 | - |  | - | - |  | 0 |  |
| 15 | 60 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 20 | 80 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 25 | 100 | 6 | 6 | 6 | 4 | 2 | 0 |  |
| 30 | 120 | 12 | 12 | 10 | 7 | 2 | 0 |  |
| 35 | 140 | 15 | 14 | 11 | 7 | 0 | 0 |  |
| 40 | 160 | 18 | 17 | 14 | 9 | 0 | 0 |  |
| ${ }^{1}$ Ultimate increase is phased in over 10 years, 2009-18. For workers with a given AIME, the increase is greater for more than 30 years of work. Increase reduced to 0 for 20 years of work or less. Based on intermediate assumptions of the 2001 Trustees Report. |  |  |  |  |  |  |  |  |

The provision would provide the same 12-percent increase for 30-year workers with average earnings below that of the 30 -year minimum wage worker. This 12-percent increase would be reduced for workers with higher career-average earnings levels (AIME), reaching 0 for those with AIMEs equal to one-twelfth the average wage indexing series (AWI) for the second year prior to benefit eligibility. For workers with the same AIME levels, the percentage increase is raised for those with more than 30 years of work, reaching about 1.5 times as much (up to 18 percent) for those with 40 years of work or more. However, the percentage increase is reduced for workers with fewer than

[^0]30 years of work, reaching 0 for those with 20 or fewer years of work. Thus, no enhancement is provided by this provision for retirees with 20 or fewer years of employment. The year-of-work requirements would be "scaled" to the length of the elapsed period from age 22 to benefit eligibility for workers who become disabled or die before reaching age $62 .{ }^{2}$ The incremental effect of this provision after provisions a. 1 and a. 2 would be to reduce the size of the long-range OASDI actuarial balance by an estimated 0.13 percent of taxable payroll.

The benefit enhancement under this provision would be computed according to the following formula:

For all workers with AIME less than one-twelfth the AWI for 2 years prior to eligibility, the PIA is multiplied by

$$
1+\text { applicable percentage } \times \text { AIME factor } \times \text { coverage factor } \text {. }
$$

In the above formula,

- "Applicable percentage" is equal to 1.2 percent for beneficiaries initially eligible in 2009, 2.4 percent for those initially eligible in $2010, \ldots$, and 12 percent for those initially eligible in 2018 and later;
- "AIME factor" is equal to
$\begin{cases}1 & \text { if } \mathrm{AIME} \leq \mathrm{M} \\ (\mathrm{A}-\operatorname{AIME}) /(\mathrm{A}-\mathrm{M}) & \text { if } \mathrm{M}<\mathrm{AIME}<\mathrm{A} \\ 0 & \text { if } \mathrm{AIME} \geq \mathrm{A}\end{cases}$

Here,
A = AWI for second year before eligibility, divided by 12 and
$\mathrm{M}=$ AIME for a 30 -year minimum wage worker.
Note that A as defined for Model 3 is different than A as defined for Model 2.

- "Coverage factor" is equal to the greater of zero and
$1+\mathrm{B} \times(\mathrm{QCs}-3 \times$ elapsed years $) /$ elapsed years
with

$$
\mathrm{B}= \begin{cases}1 & \text { if } \mathrm{QCs}<3 \times \text { elapsed years } \\ 1 / 2 & \text { otherwise } .\end{cases}
$$

In the above formula for the coverage factor, "QCs" represents the number of quarters of coverage earned by the worker prior to benefit eligibility. "Elapsed years" represents the number of years starting with the year the worker attains age 22 through the year prior to benefit eligibility, excluding periods of disabled worker entitlement.

[^1]c.2) Increased Benefits for Widow(er)s: Starting 2009, pay all aged surviving spouses (aged 62 or older) 75 percent of the benefit that would be received by the couple if both were still alive (including all applicable actuarial reductions and delayed retirement credits), if this is higher than their current benefit. The benefit provided by this option would be limited to what the survivor would receive as a retired worker beneficiary with a PIA equal to the average PIA of all retired worker beneficiaries for December of the year prior to becoming eligible for this option. Actuarial reduction for this limitation would be computed as if the survivor had begun receiving a retired worker benefit on the earliest of the actual ages upon which benefits began as an aged spouse, an aged surviving spouse, or a retired worker beneficiary, but not before 62. This provision alone would reduce the size of the long-range OASDI actuarial balance by an estimated 0.08 percent of taxable payroll.

The total combined effect of the basic provisions in Parts 1 and 2 of this proposal would be to increase the size of the long-range OASDI actuarial balance (reduce the actuarial deficit) by an estimated 1.88 percent of taxable payroll.

## Part 3. Individual Accounts and Benefit Offset; General Revenue Transfers

a) Personal Retirement Accounts: Under this proposal, a voluntary option is provided starting in 2004 for workers covered under the OASDI program to have an amount equal to 2.5 percent of their OASDI taxable earnings, up to $\$ 1,000$ (value for 2002, and wage indexed thereafter) deposited annually in a personal retirement account (PRA). This option would be limited to workers who have not yet attained age 55 at the beginning of 2002. Participation in this option would require that the worker contribute an additional 1 percent of OASDI taxable earnings to the personal retirement account each year. The 1-percent additional contribution would be subsidized in a progressive manner with a refundable tax credit that would be expected to have a cost (to the General Fund of the Treasury) of about 0.15 percent of OASDI taxable earnings if all workers participated.
b) Benefit Offsets for PRAs: For workers who participate in the PRA option, retirement and aged survivor benefits payable based on their earnings will be reduced according to a hypothetical account accumulation and annuity computation using a specified "offset yield rate". This hypothetical account and annuity computation would reflect only the PRA contributions provided as a redirect of payroll taxes (i.e., the 2.5 percent up to $\$ 1,000$ ). The offset yield rate for this proposal is 0.5 percent below the realized or expected market yield on long-term Treasury bonds for each year.

The hypothetical account accumulation at retirement would be equal to the worker's PRA contributions (excluding the additional 1-percent) accumulated using the specified offset yield rate for each year. The retirement (and aged survivor) benefit offset would be equal to the computed amount of a CPI-indexed life annuity purchased with this hypothetical accumulation, and based on the expected future mortality, inflation, and real interest rates used for the intermediate assumptions of the most recent OASDI Trustees Report. Offset annuities would be based on expected unisex mortality for workers who are not
married at retirement. Joint and $2 / 3$ survivor life annuities would be computed for workers who are married at retirement, reflecting the actual ages of each spouse.
c) Financing PRA Contributions: This proposal provides a framework in which the voluntary 1-percent additional PRA contributions would be provided by the worker, with a progressive subsidy from the General Fund of the Treasury, as described above. For those who participate in the 1-percent additional contribution, the 2.5-percent (up to $\$ 1,000$ ) personal account contribution would be made as a "redirect" of OASI payroll tax revenue. Contributions redirected from payroll tax revenue based on wages are assumed to be divided equally between employee and employer payroll taxes.

For any year in which the amount of assets in the combined OASI and DI Trust Funds would be below 200 percent of the projected program cost for the following year, the Trust Funds would be "reimbursed" through a transfer from the General Fund of the Treasury for the amount redirected to PRAs. This transfer would be limited in each year so as not to raise the level of the Trust Funds above 200 percent of annual program cost.
d) Investment of PRAs: Account contributions would be collected using the existing structure for collecting OASDI payroll tax contributions. In addition, account contributions would be managed by a central authority in a manner similar to that of the Federal Employee Thrift Savings Plan. Initially, available investment choices would be limited to a first tier of options that would include several broad index funds (equity, government bonds, and corporate and other bonds) plus several balanced funds. After several years, the board of the central authority would expand the options to include a second tier for individuals who had accumulated some threshold amount in their account. The second tier, still managed centrally, would offer a range of funds provided by approved private investment firms. The worker would select an investment firm and the funds offered by that firm. For both tiers, the central authority would maintain individual account records and would combine account transactions in aggregate amounts when dealing with the private investment firms.
e) Account Distributions and Taxation: Estimates provided for this proposal assume that individuals would not have access to PRA accumulations prior to retirement. Allowing such access would diminish the account balance at retirement and thus the available retirement income thereafter. For death before retirement, account balances would be transferred to the account of the surviving spouse, if any, and otherwise to the worker's estate.

Upon entitlement to OASI benefits as a retired worker, aged spouse, or aged surviving spouse, the worker would have access to the account accumulation. Disabled workers would have access to their accounts when they convert to retired worker beneficiaries. Under this proposal, individuals would "have the option of converting some or all assets in the PRAs to an annuity for the remaining life of the worker and spouse (if any)". The benefit estimates provided for the PCSSS Model 3 assume that all account balances would be used to purchase life annuities at retirement, and that married workers would purchase joint and $2 / 3$ survivor annuities. To the extent that lump-sum distributions are
taken under the proposal, monthly retirement annuity income would be diminished from that presented in our memorandum of January 31, 2002.

Personal account and annuity distributions would be treated like OASDI benefits for personal income tax purposes.
f) Provision for Additional Transfers from the General Fund of the Treasury: For any year in which the combined OASDI Trust Funds would fall below 90 percent of annual program cost, transfers would be made from the General Fund of the Treasury to maintain the Trust Funds at a level equal to 90 percent of annual outgo. This provision is provided to address the "transition costs" associated with the individual account provision described above. To the extent to which workers choose to participate in the personal account, payroll tax revenue will be redirected from the Trust Funds beginning 2009, but benefit offsets associated with this option will not rise to substantial levels for many years. This provision is intended to maintain OASDI solvency during the period for which individual accounts would reduce the net cash flow to the Trust Funds. This provision would have the additional effect of assuring that the OASDI Trust Funds would never become exhausted and thus the program would always remain solvent in the future.

## B. Assumptions Used for Financial Estimates

All estimates are based on the intermediate assumptions of the 2001 OASDI Trustees Report. This includes the ultimate assumption of a 3-percent ultimate real annual yield on long-term U.S. Treasury bonds (based on the effective market yield of all marketable Treasury bonds with a remaining duration of more than 4 years). Assumptions other than those described below are consistent with those used for Model 3 of the PCSSS (see our memorandum dated January 31, 2002).

## 1. Personal Account Participation

Participation in the personal accounts would be optional. The proportion of workers who would voluntarily participate cannot be determined with any degree of certainty. For this reason, estimates of the aggregate financial status of the Trust Funds, the effect on the Federal unified budget balance, and the effect on cash flows from the General Fund of the Treasury to the OASDI Trust Funds are presented in this memorandum for three different levels of participation, 0 percent, 67 percent, and 100 percent.

Estimates for the basic provisions of the proposal (Parts 1 and 2, plus provision $f$ of Part 3) represent the aggregate financial effects assuming no voluntary participation in personal accounts. Estimates presented for 67-percent participation are based on the assumption that two thirds of all potential personal account contributions are made. This condition could exist if two thirds of workers at every level of earnings participated. This condition could also be met, for example, if more than two thirds of high earners participated and less than two thirds of the remaining earners participated. Due to the size of the personal account contributions and the nature of the benefit offset provisions,
aggregate financial estimates for these models are not very sensitive to the precise distribution of participation rates by earnings level, assuming that two thirds of all potential personal account contributions are made.

For this proposal, less than 100 percent participation would be expected, and the 67percent assumption is likely to be the most appropriate of the assumptions considered. Participation would be limited because workers would be required to make an additional contribution "out of pocket" of 1 percent of OASDI taxable earnings. Even with a subsidy of up to one half from the General Fund of the Treasury, this additional contribution would still result in many low earners not participating.

## 2. Personal Account Accumulation

Workers are assumed to maintain personal-account portfolios that would have an average distribution of 50 percent in equity, 30 percent in corporate bonds, and 20 percent in U.S. Treasury long-term bonds. Equities are assumed to have an ultimate real annual yield of 6.5 percent, and corporate bonds are assumed to have an ultimate real annual yield of 3.5 percent, or one half of one percentage point higher than assumed for long-term U.S.
Treasury bonds. An ultimate assumption of an annual administrative expense of 30 basis points is assumed for the PRAs, consistent with the specifications of the account management.

The expected ultimate average real portfolio yield for personal accounts would thus be 4.6 percent, net of administrative expense and is calculated as follows:

$$
0.5 * 6.5 \%+0.3 * 3.5 \%+0.2 * 3.0 \%-0.3 \%=4.6 \%
$$

## C. Financial Estimates: Aggregate Measures of Effects on OASDI Financing, Personal Accounts, and the Federal Unified Budget

The attached tables reflect effects on the financial status of the OASDI program, including the benefit offsets based on contributions to personal accounts.

## 1. Financial Operations of the Combined OASDI Trust Funds

The first three tables attached provide year by year detail of the cash flow and Trust Fund status for the OASDI program assuming no PRA, or zero participation (Table 1-basic), 67 percent PRA participation (Table 2-67P), and 100 percent PRA participation (Table 3100P). The following table summarizes the effects under the three participation assumptions.

| Summary of Estimated Effects on OASDI Financial Status |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | OASDI <br> Actuarial <br> Balance <br> (percent of payroll) | First Year <br> Cash Flow <br> Becomes <br> Negative | Year <br> Cash Flow <br> Returns to <br> Positive | Year of <br> OASDI <br> Trust Fund <br> Exhaustion |  |
| Present Law | -1.86 | 2016 | NA | 2038 |  |
| Table 1 -basic |  |  |  |  |  |
| NO PRA Participation | 0.02 | 2024 | 2051 | NA |  |
| Table 2-67P |  |  |  |  |  |
| 67\% Participation * | 0.08 | 2020 | 2038 | NA |  |
| Table 3-100P |  |  |  |  |  |
| 100\% Participation | 0.10 | 2018 | 2035 | NA |  |

* Most likely individual account participation rate.

Based on the intermediate assumptions of the 2001 Trustees Report and other assumptions described in the text.

It should be noted that although the ratio of OASDI Trust Fund assets to annual cost (or Trust Fund Ratio, TFR) is declining at the end of the 75-year period for the zeroparticipation assumption, the Trust Funds would never become exhausted because of the provision for General Fund Transfers to maintain the TFR at 90 percent.

The column labeled "Addl GF Trans" represents the estimated transfers needed to maintain the OASDI TFR at 90 percent. Under these projections, such transfers are only needed under the assumption of 100 percent participation in the PRA, and then only for years 2039 through 2042.

The column labeled "GF Pay for PRA Contribution" represents the portion of the Government match ( 2.5 percent up to $\$ 1,000$ ) that is reimbursed to the Trust Funds from the General Fund in order to avoid lowering the TFR below 200 percent.

## 2. Additional Aggregate Values for Trust Funds and Personal Accounts

A second set of three tables is attached with a letter "a" following the table name. Each of these tables provides three additional sets of values where appropriate. All values are expressed on a present value basis, i.e., current dollar values discounted to January 1, 2001 using the projected OASDI Trust Fund yield rates. These values are given for each year 2001 through 2076 and include:

- Trust Fund levels under present law (PL) and the proposal as of the end of the year,
- Net current accrual for future benefit offset under the proposal as of the end of the year,
- Annual cash flows of the personal accounts, and
- Personal account accumulations as of the end of the year.

The Trust Fund levels reflect the projected assets accumulated in the OASDI Trust Funds at the end of each year. Because the OASDI program does not have legal authority to borrow, these assets cannot become negative. A negative value for a specific year represents the unfunded obligation of the OASDI program through the specific year.

Net current accrual for future benefit offset is the currently accrued hypothetical amount of prior personal account contributions based on redirected payroll taxes that are potentially applicable as a benefit offset in the future. This amount reflects deductions for accruals that have already been applied as benefit offsets and for accruals that were not applied as offsets because of death by a worker before reaching retirement. It should be noted that these accruals shown are expressed in present value as of January 1, 2001, discounted at the OASDI Trust Fund yield rates. However, these amounts will actually "grow" up to the time they are applied as benefit offsets at the specified benefit offset yield rate. It is also important to note that these accruals for future benefit offset are not equivalent to Trust Fund assets, as they are not available for payment of current benefits if needed.

Annual dollar flows and accumulations of the personal accounts are presented in the last three columns of these tables. These estimates are based on very specific assumptions that all personal account assets are converted to CPI-indexed life annuities at retirement (see description in the section on assumptions above). In practice, many individuals would likely annuitize only part of their personal account accumulation so estimated annuity assets are overstated to some degree. However this overstatement might be partially offset to the extent that some individuals would choose to purchase a variable life annuity instead of the CPI-indexed life annuity. Total personal account and annuity assets (referred to as IA/Annuity assets in the tables) include both the assets of personal accounts held prior to retirement, and the assets held by the annuity provider after retirement.

## 3. Effects on Annual Federal Unified Budget Balances

A third set of three tables is attached with a letter "b" following the table name. Each of these tables provides a rough estimate of the effects of the proposal on the annual Federal unified budget balance for calendar years 2004 through 2076. All values in these tables are presented in constant 2001 dollars (i.e., dollar amounts that are indexed back to 2001 based on the Consumer Price Index, CPI).

These estimates are based completely on the intermediate assumptions of the 2001 Trustees Report, including the trust-fund interest assumption (plus additional assumptions discussed above), and thus are not consistent with projections made by CBO and OMB (which use different assumptions). However, differences in payroll and benefit estimates are not large during the first 10 projection years so these values can be viewed as very rough approximations of the magnitude of effects on the unified budget balances through this period.

The first column in these tables provides the estimated Federal matching contributions ( 2.5 percent up to $\$ 1,000$ ) to personal accounts financed by redirecting payroll taxes. These contributions are partially or fully reimbursed to the Trust Funds from the General Fund of the Treasury for some years. These contributions by the Federal government count as expenditures for the Federal unified budget.

A second column provides the amount of General Fund transfers to the Trust Funds to maintain a TFR of at least 90 percent. While these values are included in this table, it should be noted that such transfers do not affect the unified budget balance.

The third column provides the estimated amount of OASDI benefit offset based on earlier contributions to personal accounts. These benefit offsets reduce the amount paid to beneficiaries by the Trust Funds and thus reduce expenditures for the unified budget.

The fourth column provides the amount of other changes in OASDI cash flow. These include specified modifications to OASDI benefit levels and changes in revenue to the Trust Funds based on taxation of benefits and disbursements from personal accounts. Transfers from the General Fund to the Trust Funds to maintain OASDI solvency or reimburse PRA contribution costs are not included in this amount because they do not affect the unified budget balance.

A fifth column provides the estimated amount of income tax credit provided by the General Fund as a subsidy for the 1-percent out-of-pocket personal account contributions. This amount is an expenditure for the unified budget balance.

The sixth column provides the estimated "Change in Annual Unified Budget Cash Flow". This value reflects the amounts in the first 5 columns, and thus excludes the effects on interest obligations of the Federal government on publicly held debt.

The seventh column provides the estimated cumulative effect of the proposal through the end of the year on the amount of Federal debt held by the public, including interest on these changes. Note that these estimates assume that no other changes in Federal spending or income will occur other than those directly related to the proposal.

The eighth and final column provides the estimated "Change in Annual Unified Budget Balance", which includes changes in interest obligations to the public.
4. Annual Cash Flows from the General Fund of the Treasury to the OASDI Trust Funds

A fourth set of three tables is attached with a letter "c" following the table name. Each of these tables provides the estimated annual net cash flow from the General Fund of the Treasury to the OASDI Trust Funds. All values in these tables are presented in constant 2001 dollars (i.e., dollar amounts that are indexed back to 2001 based on the CPI).

For comparison purposes, cash flow estimates are provided in each table for three different cases:

- The Three-Part Proposal under the indicated assumption for PRA participation
- Present Law OASDI modified to allow borrowing from the General Fund to pay scheduled benefits, and
- Present Law OASDI where only benefits payable with current financing provisions are being paid.
For each of these cases three columns are provided. The first column shows either estimates of the amount of borrowing needed from the General Fund to pay benefits or estimates of the amount of transfers from the General Fund as appropriate to the different cases described above. The second column is the estimated total net cash flow from the General Fund to the Trust Funds, including transfers and borrowing. The third column is the total net cash flow for years starting with 2001 through the end of the given year, including accumulated interest on cash flows for the period.

The fifth set of three tables attached is the same as the fourth, except that values are presented in present value, discounted for interest to January 1, 2001.
5. Aggregate Measures of Additional Revenue Needed from the General Fund for Solvency

As shown in the first column of Table 2-67P a, the additional revenue needed by OASDI under current law to fully pay scheduled benefits throughout the 75 -year projection period (2001-75) is $\$ 3.2$ trillion in present value (discounted to January 1, 2001). For the three-part proposal described in this memorandum, however, this required amount is reduced by about 75 percent, to less than $\$ 0.8$ trillion in present value. This value is the difference between (1) the additional General Revenue amounts projected under the proposal for reimbursing Trust Fund PRA contributions in years 2029 through 2068 and for maintaining a 90 percent TFR (sum of values in first column of Table 2-67P c, or about $\$ 1$ trillion in present value) and (2) the assets held in the OASDI Trust Funds at the end of 2075 ( $\$ 0.3$ trillion in present value, see the second column of Table 2-67P a).


Stephen C. Goss
Alice W. Wade

Alice H. Wade

Attachments: 15

Table 1-basic i.e., Without PRAs
$\begin{array}{cr}\text { Basic Provisions: PIA-.5\%-09+, PIAfac15to10, } \\ \text { With Ult Real TF Int Rate of } & 3.0\end{array}$

Year

| Year | Cost <br> Rate* | In |
| :---: | :---: | :---: |
| 2001 | 10.49 |  |
| 2002 | 10.42 |  |
| 2003 | 10.43 |  |
| 2004 | 8.93 |  |
| 2005 | 8.98 |  |
| 2006 | 9.04 |  |
| 2007 | 9.15 |  |
| 2008 | 9.27 |  |


2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027


2032
2033
2034
2035113

| 2036 | 13 |
| :--- | :--- |
| 2037 | 13 |
| 2038 | 13 |

2040
2041
2042

2043
2044
20
2047
2048

2050

2054
2057
2058
2060
2062
2063
2065

2066 12.81
2067 12.
2069 12.

2070
2072
2073

2074
2076
Sum

## 2001

$-2075$

Based on Intermediate Assumptions of the 2001 Trustees Report
A invested 50\%Equity, 30\% CorpBnd, 20\%TreasBnd; 0.3\%Admin

* Net of Benefit Offset
** Includes additional net General Fund transfers

| Marginal |  | Net | Changes in OASDI |  |
| :--- | ---: | ---: | :--- | ---: |
| Change | AddI | OASDI | Contrib Rt from-- |  |
| in OASDI | GF | Contrib | PRA | GF Pay for |
| CntrbRat | Trans | Rate $^{* *}$ | Contribs | PRA cntrb |

0
0

| 0 | 12.40 | 0 |
| :--- | :--- | :--- |
| 0 | 12.40 | 0 |
| 0 | 12.40 | 0 |
| 0 | 12.40 | 0 |

0




Table 1-basic i.e., Without PRAs
a Basic Provisions: PIA-.5\%-09+, PIAfac15to10,with12\%MinBy2018, Incrs Reduction fac,, Wid $75 \%$ of Couple, $3.9 \% t a x>m a x$ in 2004 With Ult Real Int Rate of

| Year |  | PL TF EOY* | PROP TF <br> (billions of PV\$ 1/1/2001) |
| :---: | :---: | :---: | :---: |
|  | 2001 | 1,139 | 1,139 |
|  | 2002 | 1,230 | 1,230 |
|  | 2003 | 1,320 | 1,320 |
|  | 2004 | 1,407 | 1,432 |
|  | 2005 | 1,491 | 1,542 |
|  | 2006 | 1,570 | 1,647 |
|  | 2007 | 1,644 | 1,748 |
|  | 2008 | 1,711 | 1,841 |
|  | 2009 | 1,771 | 1,924 |
|  | 2010 | 1,824 | 1,999 |
|  | 2011 | 1,867 | 2,066 |
|  | 2012 | 1,901 | 2,124 |
|  | 2013 | 1,925 | 2,171 |
|  | 2014 | 1,937 | 2,209 |
|  | 2015 | 1,938 | 2,236 |
|  | 2016 | 1,928 | 2,253 |
|  | 2017 | 1,906 | 2,259 |
|  | 2018 | 1,873 | 2,256 |
|  | 2019 | 1,829 | 2,243 |
|  | 2020 | 1,775 | 2,221 |
|  | 2021 | 1,712 | 2,191 |
|  | 2022 | 1,641 | 2,155 |
|  | 2023 | 1,562 | 2,112 |
|  | 2024 | 1,476 | 2,063 |
|  | 2025 | 1,384 | 2,010 |
|  | 2026 | 1,287 | 1,952 |
|  | 2027 | 1,186 | 1,891 |
|  | 2028 | 1,080 | 1,828 |
|  | 2029 | 972 | 1,763 |
|  | 2030 | 861 | 1,698 |
|  | 2031 | 749 | 1,632 |
|  | 2032 | 636 | 1,566 |
|  | 2033 | 523 | 1,502 |
|  | 2034 | 410 | 1,438 |
|  | 2035 | 298 | 1,376 |
|  | 2036 | 188 | 1,317 |
|  | 2037 | 79 | 1,260 |
|  | 2038 | -27 | 1,206 |
|  | 2039 | -131 | 1,154 |
|  | 2040 | -233 | 1,105 |
|  | 2041 | -333 | 1,058 |
|  | 2042 | -430 | 1,014 |
|  | 2043 | -526 | 972 |
|  | 2044 | -620 | 933 |
|  | 2045 | -713 | 895 |
|  | 2046 | -804 | 859 |
|  | 2047 | -893 | 826 |
|  | 2048 | -982 | 793 |
|  | 2049 | -1,069 | 763 |
|  | 2050 | -1,156 | 733 |
|  | 2051 | -1,242 | 705 |
|  | 2052 | -1,327 | 678 |
|  | 2053 | -1,412 | 652 |
|  | 2054 | -1,496 | 626 |
|  | 2055 | -1,580 | 601 |
|  | 2056 | -1,664 | 577 |
|  | 2057 | -1,747 | 553 |
|  | 2058 | -1,830 | 530 |
|  | 2059 | -1,912 | 508 |
|  | 2060 | -1,994 | 486 |
|  | 2061 | -2,076 | 464 |
|  | 2062 | -2,157 | 444 |
|  | 2063 | -2,238 | 423 |
|  | 2064 | -2,318 | 404 |
|  | 2065 | -2,397 | 384 |
|  | 2066 | -2,476 | 366 |
|  | 2067 | -2,554 | 348 |
|  | 2068 | -2,632 | 330 |
|  | 2069 | -2,709 | 313 |
|  | 2070 | -2,785 | 296 |
|  | 2071 | -2,861 | 280 |
|  | 2072 | -2,936 | 265 |
|  | 2073 | -3,010 | 250 |
|  | 2074 | -3,084 | 236 |
|  | 2075 | -3,157 | 222 |
|  | 2076 | -3,230 | 209 |

*Negative values represent unfunded obligation through the year.
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Table 2-67P a 2.5\%to\$1k in 2004, BenOffst@Ryld=2.5\% w 1\%addOn, 3.9tax>max in 2004

| Assumed |
| :---: |
| \% Elect PRA |

$66.7 \%$

With Ult Real Int Rate of
Ult Ave Real Shadow IA Rate of $\quad 2.5$
Ave Shadow Annuity Net Yld Rate of 2.5
Ne

Year
2001
PL TF EOY* PROP TF

2002
2003
2004
2005
(billions of PV\$ 1/1/2001)
1,139
1,230
1,320
1,320
1,387
1,387
1,453
Shadow Accrual

2014
2015
2016
2017
2018
2019

2020
2021
2022
2023
2024
2025
2026
2026
2028
2029
2030
2032
2033
2034
2036
2037
2038
2040
2042
2043
204
2046
2048
2049
2050
2052
$2055-1$,
2056
2058
$2059-1$,
$2060-1$,
2061 -2,0
$2062-2,1$
2064

2066
2068
2069
2071
$2072-2,9$

2074
2075
A invested 50\%Equity, 30\% CorpBnd, 20\%TreasBnd; 0.3\%Admin
1/Shadow account accruals for future benefit offsets
*Negative values represent unfunded obligation through the year.

| IA/Annuity Operations Ult Ave Real IA Rate of Ave IA Annuity Net YId Rate of IA/Annuity Assets EOY (billions of PV\$ | luding$1 \%$ Ad <br> 4.6 <br> 3 <br> 3IA Contribsin Year/2001) | On IA <br> IA Disburse in Year |
| :---: | :---: | :---: |
| 0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 |
| 67 | 67.1 | 0.0 |
| 136 | 67.4 | 0.0 |
| 206 | 67.7 | 0.0 |
| 277 | 67.5 | 0.0 |
| 349 | 67.3 | 0.0 |
| 421 | 67.1 | 0.4 |
| 493 | 66.9 | 0.8 |
| 566 | 66.8 | 1.3 |
| 638 | 66.6 | 1.9 |
| 711 | 66.3 | 2.5 |
| 783 | 65.6 | 3.2 |
| 854 | 64.8 | 4.0 |
| 925 | 64.0 | 4.9 |
| 995 | 63.2 | 5.8 |
| 1,064 | 62.4 | 6.8 |
| 1,131 | 61.6 | 7.8 |
| 1,198 | 60.8 | 9.0 |
| 1,263 | 59.9 | 10.2 |
| 1,327 | 59.0 | 11.4 |
| 1,389 | 58.1 | 12.8 |
| 1,449 | 57.3 | 14.2 |
| 1,508 | 56.4 | 15.6 |
| 1,565 | 55.5 | 17.1 |
| 1,620 | 54.6 | 18.7 |
| 1,673 | 53.7 | 20.3 |
| 1,723 | 52.8 | 22.0 |
| 1,772 | 51.9 | 23.7 |
| 1,818 | 51.0 | 25.5 |
| 1,862 | 50.2 | 27.3 |
| 1,904 | 49.4 | 29.2 |
| 1,943 | 48.6 | 31.1 |
| 1,979 | 47.8 | 33.0 |
| 2,013 | 47.1 | 35.0 |
| 2,045 | 46.3 | 37.0 |
| 2,074 | 45.6 | 39.0 |
| 2,100 | 44.8 | 41.0 |
| 2,123 | 44.1 | 43.1 |
| 2,144 | 43.4 | 45.1 |
| 2,161 | 42.7 | 47.2 |
| 2,176 | 42.0 | 49.4 |
| 2,187 | 41.3 | 51.5 |
| 2,196 | 40.6 | 53.5 |
| 2,202 | 39.9 | 55.5 |
| 2,205 | 39.2 | 57.8 |
| 2,204 | 38.5 | 59.9 |
| 2,201 | 37.8 | 61.7 |
| 2,195 | 37.2 | 63.2 |
| 2,187 | 36.5 | 64.5 |
| 2,177 | 35.9 | 65.7 |
| 2,165 | 35.3 | 66.9 |
| 2,151 | 34.7 | 67.9 |
| 2,135 | 34.0 | 68.7 |
| 2,117 | 33.4 | 69.5 |
| 2,098 | 32.9 | 70.2 |
| 2,077 | 32.3 | 70.7 |
| 2,055 | 31.7 | 71.1 |
| 2,032 | 31.2 | 71.5 |
| 2,008 | 30.6 | 71.7 |
| 1,983 | 30.1 | 71.8 |
| 1,958 | 29.5 | 71.8 |
| 1,933 | 29.0 | 71.7 |
| 1,907 | 28.5 | 71.5 |
| 1,881 | 28.0 | 71.3 |
| 1,854 | 27.5 | 70.9 |
| 1,826 | 27.0 | 70.5 |
| 1,798 | 26.6 | 70.0 |
| 1,770 | 26.1 | 69.4 |
| 1,742 | 25.6 | 68.8 |
| 1,714 | 25.2 | 68.1 |
| 1,686 | 24.7 | 67.3 |
| 1,658 | 24.3 | 66.5 |
| 1,630 | 23.8 | 65.7 |
| 1,602 | 23.4 | 64 |

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Table 3-100P a 2.5\%to\$1k in 2004, BenOffst@Ryld=2.5\% w 1\%addOn, 3.9tax>max in 2004

| Assumed | With Ult Real Int Rate of | 3 |
| :---: | :---: | ---: |
| \% Elect PRA | Ult Ave Real Shadow IA Rate of | 2.5 |
| $\mathbf{1 0 0 . 0 \%}$ | Ave Shadow Annuity Net Yld Rate of | $\mathbf{2 . 5}$ |

Ne
Shadow
PL TF EOY* PROP

Year
2001
2002
2003
2004
2005
2007
2009
2010
2011
2012
2012
2013

2014
2015
2016
$\begin{array}{lll}2017 & 1,906 & 1,362 \\ 2018 & 1,873 & 1,303 \\ 2019 & 1,829 & 1,237 \\ 2020 & 1,775 & 1,163 \\ 2021 & 1,712 & 1,083\end{array}$
2022

2025

2028
2029
2030
2032
2034
2035
2037
2039
2040
2042
2043
2044
2046
2047

2050

2053
205
2056
2058
2059
2062
2064
2066
2068
2070
2072
2073
2074
2075
A invested 50\%Equity, 30\% CorpBnd, 20\%TreasBnd; 0.3\%Admin
1/ Shadow account accruals for future benefit offsets
*Negative values represent unfunded obligation through the year.

| IA/Annuity Operations Ult Ave Real IA Rate of Ave IA Annuity Net YId Rate of IA/Annuity Assets EOY (billions of PV\$ | $\begin{aligned} & \text { luding } 1 \% \text { Add } \\ & 4.6 \\ & 3 \\ & \text { IA Contribs } \\ & \text { in Year } \\ & / 2001 \text { ) } \end{aligned}$ | On IA <br> IA Disburse in Year |
| :---: | :---: | :---: |
| 0 | 0.0 | 0.0 |
| 0 | 0.0 | 0.0 |
| 101 | 100.6 | 0.0 |
| 204 | 101.1 | 0.0 |
| 309 | 101.6 | 0.0 |
| 416 | 101.3 | 0.0 |
| 523 | 101.0 | 0.0 |
| 631 | 100.7 | 0.6 |
| 739 | 100.3 | 1.2 |
| 848 | 100.2 | 2.0 |
| 957 | 99.9 | 2.8 |
| 1,066 | 99.4 | 3.8 |
| 1,175 | 98.4 | 4.8 |
| 1,282 | 97.2 | 6.0 |
| 1,388 | 96.0 | 7.3 |
| 1,492 | 94.8 | 8.7 |
| 1,596 | 93.6 | 10.2 |
| 1,697 | 92.4 | 11.8 |
| 1,797 | 91.2 | 13.5 |
| 1,894 | 89.9 | 15.3 |
| 1,990 | 88.6 | 17.2 |
| 2,083 | 87.2 | 19.2 |
| 2,174 | 85.9 | 21.2 |
| 2,262 | 84.6 | 23.4 |
| 2,347 | 83.3 | 25.7 |
| 2,430 | 81.9 | 28.0 |
| 2,509 | 80.5 | 30.5 |
| 2,585 | 79.2 | 33.0 |
| 2,658 | 77.8 | 35.6 |
| 2,727 | 76.6 | 38.3 |
| 2,793 | 75.3 | 41.0 |
| 2,855 | 74.1 | 43.8 |
| 2,914 | 72.9 | 46.6 |
| 2,969 | 71.8 | 49.5 |
| 3,020 | 70.6 | 52.4 |
| 3,067 | 69.5 | 55.4 |
| 3,111 | 68.4 | 58.4 |
| 3,150 | 67.3 | 61.5 |
| 3,185 | 66.2 | 64.6 |
| 3,215 | 65.1 | 67.7 |
| 3,242 | 64.0 | 70.9 |
| 3,264 | 62.9 | 74.0 |
| 3,281 | 61.9 | 77.2 |
| 3,294 | 60.8 | 80.2 |
| 3,303 | 59.8 | 83.3 |
| 3,307 | 58.8 | 86.7 |
| 3,306 | 57.8 | 89.8 |
| 3,301 | 56.8 | 92.6 |
| 3,293 | 55.8 | 94.8 |
| 3,281 | 54.8 | 96.8 |
| 3,265 | 53.8 | 98.6 |
| 3,247 | 52.9 | 100.3 |
| 3,226 | 52.0 | 101.8 |
| 3,202 | 51.1 | 103.1 |
| 3,176 | 50.2 | 104.2 |
| 3,147 | 49.3 | 105.2 |
| 3,116 | 48.4 | 106.0 |
| 3,083 | 47.6 | 106.7 |
| 3,048 | 46.7 | 107.2 |
| 3,012 | 45.9 | 107.5 |
| 2,974 | 45.1 | 107.7 |
| 2,938 | 44.3 | 107.7 |
| 2,900 | 43.5 | 107.6 |
| 2,861 | 42.8 | 107.3 |
| 2,821 | 42.0 | 106.9 |
| 2,780 | 41.3 | 106.4 |
| 2,739 | 40.5 | 105.7 |
| 2,698 | 39.8 | 105.0 |
| 2,656 | 39.1 | 104.1 |
| 2,614 | 38.4 | 103.2 |
| 2,571 | 37.8 | 102.1 |
| 2,529 | 37.1 | 101.0 |
| 2,487 | 36.4 | 99.8 |
| 2,445 | 35.8 | 98.6 |
| 2,403 | 35.1 | 97.3 |

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| b Unified Budget Effects |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| i.e., Without PRAs <br> Year |  |  |  |  |  |  |  |  |
|  | Contribs to | GenFnd | Offset to | Other | Tax | Change | Change | Change |
|  | PRA by Fed | Transfer to | OASI Ben | Changes | Credit | in Annual | in Debt | in Ann |
|  | Govt Based | OASDI | from PRA | in OASDI | for | UnifBudg | Held by | UnifBudg |
|  | on Earnings | for 90 TFR |  | CashFlow | Addon |  | Public | Balance |
|  | (NoEffectonUB) |  |  | lessGFTrans |  |  | (EOY) |  |
|  |  |  | (Billions of Constant 2001 \$) |  |  |  |  |  |
| 2002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2004 | 0.0 | 0.0 | 0.0 | 28.5 | 0.0 | 28.5 | -29.4 | 29.4 |
| 2005 | 0.0 | 0.0 | 0.0 | 31.1 | 0.0 | 31.1 | -62.3 | 33.8 |
| 2006 | 0.0 | 0.0 | 0.0 | 31.7 | 0.0 | 31.7 | -96.8 | 36.5 |
| 2007 | 0.0 | 0.0 | 0.0 | 32.4 | 0.0 | 32.4 | -133.0 | 39.3 |
| 2008 | 0.0 | 0.0 | 0.0 | 32.9 | 0.0 | 32.9 | -170.8 | 42.0 |
| 2009 | 0.0 | 0.0 | 0.0 | 29.8 | 0.0 | 29.8 | -206.5 | 41.2 |
| 2010 | 0.0 | 0.0 | 0.0 | 31.1 | 0.0 | 31.1 | -244.6 | 44.7 |
| 2011 | 0.0 | 0.0 | 0.0 | 32.4 | 0.0 | 32.4 | -285.1 | 48.4 |
| 2012 | 0.0 | 0.0 | 0.0 | 34.0 | 0.0 | 34.0 | -328.6 | 52.6 |
| 2013 | 0.0 | 0.0 | 0.0 | 36.0 | 0.0 | 36.0 | -375.4 | 57.3 |
| 2014 | 0.0 | 0.0 | 0.0 | 38.3 | 0.0 | 38.3 | -426.1 | 62.6 |
| 2015 | 0.0 | 0.0 | 0.0 | 40.9 | 0.0 | 40.9 | -481.1 | 68.6 |
| 2016 | 0.0 | 0.0 | 0.0 | 43.9 | 0.0 | 43.9 | -540.8 | 75.1 |
| 2017 | 0.0 | 0.0 | 0.0 | 47.2 | 0.0 | 47.2 | -605.7 | 82.2 |
| 2018 | 0.0 | 0.0 | 0.0 | 50.8 | 0.0 | 50.8 | -676.2 | 89.9 |
| 2019 | 0.0 | 0.0 | 0.0 | 54.4 | 0.0 | 54.4 | -752.7 | 98.1 |
| 2020 | 0.0 | 0.0 | 0.0 | 58.4 | 0.0 | 58.4 | -835.5 | 106.8 |
| 2021 | 0.0 | 0.0 | 0.0 | 62.4 | 0.0 | 62.4 | -924.9 | 116.1 |
| 2022 | 0.0 | 0.0 | 0.0 | 66.7 | 0.0 | 66.7 | -1,021.4 | 126.1 |
| 2023 | 0.0 | 0.0 | 0.0 | 71.2 | 0.0 | 71.2 | -1,125.5 | 136.7 |
| 2024 | 0.0 | 0.0 | 0.0 | 75.9 | 0.0 | 75.9 | -1,237.6 | 148.0 |
| 2025 | 0.0 | 0.0 | 0.0 | 80.8 | 0.0 | 80.8 | -1,358.1 | 160.1 |
| 2026 | 0.0 | 0.0 | 0.0 | 86.0 | 0.0 | 86.0 | -1,487.6 | 172.9 |
| 2027 | 0.0 | 0.0 | 0.0 | 91.5 | 0.0 | 91.5 | -1,626.6 | 186.5 |
| 2028 | 0.0 | 0.0 | 0.0 | 97.3 | 0.0 | 97.3 | -1,775.7 | 201.1 |
| 2029 | 0.0 | 0.0 | 0.0 | 103.3 | 0.0 | 103.3 | -1,935.6 | 216.6 |
| 2030 | 0.0 | 0.0 | 0.0 | 109.6 | 0.0 | 109.6 | -2,106.7 | 233.0 |
| 2031 | 0.0 | 0.0 | 0.0 | 116.1 | 0.0 | 116.1 | -2,289.7 | 250.3 |
| 2032 | 0.0 | 0.0 | 0.0 | 122.7 | 0.0 | 122.7 | -2,485.0 | 268.4 |
| 2033 | 0.0 | 0.0 | 0.0 | 129.4 | 0.0 | 129.4 | -2,693.0 | 287.4 |
| 2034 | 0.0 | 0.0 | 0.0 | 135.8 | 0.0 | 135.8 | -2,913.9 | 306.9 |
| 2035 | 0.0 | 0.0 | 0.0 | 142.0 | 0.0 | 142.0 | -3,147.8 | 327.0 |
| 2036 | 0.0 | 0.0 | 0.0 | 148.2 | 0.0 | 148.2 | -3,395.1 | 347.9 |
| 2037 | 0.0 | 0.0 | 0.0 | 154.5 | 0.0 | 154.5 | -3,656.3 | 369.6 |
| 2038 | 0.0 | 0.0 | 0.0 | 160.7 | 0.0 | 160.7 | -3,931.8 | 392.3 |
| 2039 | 0.0 | 0.0 | 0.0 | 167.0 | 0.0 | 167.0 | -4,222.0 | 415.8 |
| 2040 | 0.0 | 0.0 | 0.0 | 173.2 | 0.0 | 173.2 | -4,527.3 | 440.2 |
| 2041 | 0.0 | 0.0 | 0.0 | 179.7 | 0.0 | 179.7 | -4,848.5 | 465.8 |
| 2042 | 0.0 | 0.0 | 0.0 | 186.5 | 0.0 | 186.5 | -5,186.4 | 492.7 |
| 2043 | 0.0 | 0.0 | 0.0 | 193.5 | 0.0 | 193.5 | -5,541.6 | 520.9 |
| 2044 | 0.0 | 0.0 | 0.0 | 201.0 | 0.0 | 201.0 | -5,915.1 | 550.6 |
| 2045 | 0.0 | 0.0 | 0.0 | 208.7 | 0.0 | 208.7 | -6,307.9 | 581.7 |
| 2046 | 0.0 | 0.0 | 0.0 | 216.7 | 0.0 | 216.7 | -6,720.7 | 614.3 |
| 2047 | 0.0 | 0.0 | 0.0 | 225.1 | 0.0 | 225.1 | -7,154.5 | 648.5 |
| 2048 | 0.0 | 0.0 | 0.0 | 233.8 | 0.0 | 233.8 | -7,610.3 | 684.3 |
| 2049 | 0.0 | 0.0 | 0.0 | 242.8 | 0.0 | 242.8 | -8,089.0 | 721.9 |
| 2050 | 0.0 | 0.0 | 0.0 | 252.0 | 0.0 | 252.0 | -8,591.7 | 761.1 |
| 2051 | 0.0 | 0.0 | 0.0 | 261.6 | 0.0 | 261.6 | -9,119.3 | 802.1 |
| 2052 | 0.0 | 0.0 | 0.0 | 271.4 | 0.0 | 271.4 | -9,672.8 | 844.8 |
| 2053 | 0.0 | 0.0 | 0.0 | 281.5 | 0.0 | 281.5 | -10,253.4 | 889.6 |
| 2054 | 0.0 | 0.0 | 0.0 | 291.6 | 0.0 | 291.6 | -10,861.7 | 935.9 |
| 2055 | 0.0 | 0.0 | 0.0 | 301.8 | 0.0 | 301.8 | -11,498.9 | 984.1 |
| 2056 | 0.0 | 0.0 | 0.0 | 312.5 | 0.0 | 312.5 | -12,166.2 | 1,034.6 |
| 2057 | 0.0 | 0.0 | 0.0 | 323.4 | 0.0 | 323.4 | -12,864.7 | 1,087.2 |
| 2058 | 0.0 | 0.0 | 0.0 | 334.6 | 0.0 | 334.6 | -13,595.8 | 1,142.0 |
| 2059 | 0.0 | 0.0 | 0.0 | 345.6 | 0.0 | 345.6 | -14,360.1 | 1,198.7 |
| 2060 | 0.0 | 0.0 | 0.0 | 356.6 | 0.0 | 356.6 | -15,158.8 | 1,257.4 |
| 2061 | 0.0 | 0.0 | 0.0 | 368.1 | 0.0 | 368.1 | -15,993.3 | 1,318.7 |
| 2062 | 0.0 | 0.0 | 0.0 | 379.5 | 0.0 | 379.5 | -16,864.5 | 1,382.2 |
| 2063 | 0.0 | 0.0 | 0.0 | 390.7 | 0.0 | 390.7 | -17,773.5 | 1,447.7 |
| 2064 | 0.0 | 0.0 | 0.0 | 402.4 | 0.0 | 402.4 | -18,721.8 | 1,516.1 |
| 2065 | 0.0 | 0.0 | 0.0 | 414.1 | 0.0 | 414.1 | -19,710.6 | 1,586.9 |
| 2066 | 0.0 | 0.0 | 0.0 | 425.7 | 0.0 | 425.7 | -20,741.1 | 1,660.1 |
| 2067 | 0.0 | 0.0 | 0.0 | 438.1 | 0.0 | 438.1 | -21,815.2 | 1,736.7 |
| 2068 | 0.0 | 0.0 | 0.0 | 450.5 | 0.0 | 450.5 | -22,934.3 | 1,816.0 |
| 2069 | 0.0 | 0.0 | 0.0 | 463.0 | 0.0 | 463.0 | -24,099.9 | 1,898.3 |
| 2070 | 0.0 | 0.0 | 0.0 | 476.1 | 0.0 | 476.1 | -25,314.1 | 1,984.0 |
| 2071 | 0.0 | 0.0 | 0.0 | 489.9 | 0.0 | 489.9 | -26,578.9 | 2,073.5 |
| 2072 | 0.0 | 0.0 | 0.0 | 503.7 | 0.0 | 503.7 | -27,895.8 | 2,166.0 |
| 2073 | 0.0 | 0.0 | 0.0 | 517.8 | 0.0 | 517.8 | -29,266.8 | 2,262.2 |
| 2074 | 0.0 | 0.0 | 0.0 | 532.5 | 0.0 | 532.5 | -30,694.1 | 2,362.3 |
| 2075 | 0.0 | 0.0 | 0.0 | 546.8 | 0.0 | 546.8 | -32,178.9 | 2,465.3 |
| 2076 | 0.0 | 0.0 | 0.0 | 561.1 | 0.0 | 561.1 | -33,723.1 | 2,572.2 |


| Table 2-67P <br> Assumed $\frac{\text { \% Elect PRA }}{66.7 \%}$ <br> Year | b <br> Unified <br> Contribs to PRA by Fed Govt Based on Earnings | d Budget Effects <br> GenFnd <br> Transfer to <br> OASDI <br> for 90 TFR <br> (NoEffectonUB) | Offset to OASI Ben from PRA | IA Cntrb Other Changes in OASDI CashFlow lessGFTrans | 1.965 \%, <br> Tax <br> Credit <br> for <br> Addon <br> ns of Cons | Change in Annual UnifBudg CashFlow <br> ant 2001 \$) | Benefit Offset Change in Debt Held by Public (EOY) | 100.0 \% | Change in Ann UnifBudg Balance |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 |
| 2003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  | 0.0 |
| 2004 | 50.7 | 0.0 | 0.0 | 28.5 | 3.9 | -26.1 | 26.9 |  | -26.9 |
| 2005 | 52.4 | 0.0 | 0.0 | 31.1 | 4.0 | -25.4 | 53.8 |  | -27.8 |
| 2006 | 54.2 | 0.0 | 0.0 | 31.7 | 4.1 | -26.6 | 82.9 |  | -30.7 |
| 2007 | 55.6 | - 0.0 | 0.0 | 32.4 | 4.2 | -27.5 | 113.7 |  | -33.4 |
| 2008 | 57.1 | 0.0 | 0.0 | 32.9 | 4.4 | -28.5 | 146.4 |  | -36.3 |
| 2009 | 58.6 | 0.0 | 0.4 | 29.8 | 4.5 | -32.9 | 184.5 |  | -42.8 |
| 2010 | 60.1 | 0.0 | 0.8 | 31.1 | 4.6 | -32.7 | 223.6 |  | -45.0 |
| 2011 | 61.8 | - 0.0 | 1.3 | 32.4 | 4.7 | -32.7 | 263.9 |  | -47.4 |
| 2012 | 63.3 | 0.0 | 1.9 | 34.1 | 4.8 | -32.2 | 304.9 |  | -49.4 |
| 2013 | 64.9 | 0.0 | 2.5 | 36.0 | 5.0 | -31.3 | 346.2 |  | -51.0 |
| 2014 | 66.1 | 0.0 | 3.3 | 38.3 | 5.0 | -29.5 | 387.0 |  | -51.8 |
| 2015 | 67.3 | 0.0 | 4.2 | 41.0 | 5.1 | -27.2 | 426.7 |  | -52.1 |
| 2016 | 68.5 | - 0.0 | 5.1 | 44.0 | 5.2 | -24.5 | 464.8 |  | -51.7 |
| 2017 | 69.6 | 0.0 | 6.2 | 47.3 | 5.3 | -21.4 | 500.8 |  | -50.9 |
| 2018 | 70.8 | - 0.0 | 7.4 | 50.9 | 5.4 | -17.9 | 534.3 |  | -49.5 |
| 2019 | 72.0 | 0.0 | 8.7 | 54.6 | 5.5 | -14.1 | 564.9 |  | -47.7 |
| 2020 | 73.2 | 20.0 | 10.1 | 58.6 | 5.6 | -10.1 | 592.3 |  | -45.4 |
| 2021 | 74.3 | - 0.0 | 11.6 | 62.7 | 5.7 | -5.7 | 615.9 |  | -42.6 |
| 2022 | 75.4 | 0.0 | 13.3 | 67.0 | 5.8 | -0.9 | 635.3 |  | -39.0 |
| 2023 | 76.5 | 0.0 | 15.0 | 71.6 | 5.8 | 4.3 | 649.9 |  | -34.9 |
| 2024 | 77.6 | 0.0 | 16.9 | 76.4 | 5.9 | 9.8 | 659.3 |  | -30.1 |
| 2025 | 78.7 | 0.0 | 19.0 | 81.4 | 6.0 | 15.7 | 662.8 |  | -24.7 |
| 2026 | 79.8 | 0.0 | 21.1 | 86.7 | 6.1 | 21.9 | 660.1 |  | -18.4 |
| 2027 | 80.8 | - 0.0 | 23.4 | 92.3 | 6.2 | 28.7 | 650.3 |  | -11.3 |
| 2028 | 81.8 | - 0.0 | 25.9 | 98.2 | 6.2 | 36.0 | 632.7 |  | -3.2 |
| 2029 | 82.9 | 0.0 | 28.5 | 104.3 | 6.3 | 43.6 | 606.7 |  | 5.8 |
| 2030 | 84.0 | 0 0.0 | 31.2 | 110.8 | 6.4 | 51.6 | 571.6 |  | 15.7 |
| 2031 | 85.1 | 0.0 | 34.1 | 117.4 | 6.5 | 60.0 | 526.9 |  | 26.4 |
| 2032 | 86.2 | 20.0 | 37.1 | 124.2 | 6.6 | 68.5 | 472.0 |  | 38.1 |
| 2033 | 87.3 | - 0.0 | 40.2 | 131.1 | 6.7 | 77.3 | 406.5 |  | 50.5 |
| 2034 | 88.5 | - 0.0 | 43.5 | 137.7 | 6.8 | 85.9 | 330.0 |  | 63.5 |
| 2035 | 89.7 | 0.0 | 47.0 | 144.1 | 6.9 | 94.5 | 242.4 |  | 77.1 |
| 2036 | 90.9 | 0.0 | 50.6 | 150.6 | 6.9 | 103.3 | 143.1 |  | 91.5 |
| 2037 | 92.2 | 0.0 | 54.3 | 157.1 | 7.0 | 112.2 | 31.7 |  | 106.9 |
| 2038 | 93.4 | 0.0 | 58.2 | 163.6 | 7.1 | 121.3 | -92.5 |  | 123.2 |
| 2039 | 94.7 | 0.0 | 62.3 | 170.1 | 7.2 | 130.5 | -229.9 |  | 140.4 |
| 2040 | 95.9 | 0.0 | 66.5 | 176.7 | 7.3 | 140.0 | -381.2 |  | 158.6 |
| 2041 | 97.2 | 0.0 | 70.8 | 183.6 | 7.4 | 149.8 | -547.1 |  | 178.1 |
| 2042 | 98.4 | 0.0 | 75.3 | 190.7 | 7.5 | 160.1 | -728.7 |  | 199.1 |
| 2043 | 99.7 | 0.0 | 80.0 | 198.2 | 7.6 | 170.9 | -926.8 |  | 221.4 |
| 2044 | 101.0 | 0.0 | 84.8 | 206.0 | 7.7 | 182.2 | -1,142.6 |  | 245.3 |
| 2045 | 102.2 | 0.0 | 89.6 | 214.2 | 7.8 | 193.8 | -1,376.7 |  | 270.7 |
| 2046 | 103.5 | 0.0 | 94.6 | 222.7 | 7.9 | 205.9 | -1,630.5 |  | 297.7 |
| 2047 | 104.8 | 0.0 | 100.1 | 231.6 | 8.0 | 218.9 | -1,905.2 |  | 326.8 |
| 2048 | 106.1 | 0.0 | 105.5 | 240.8 | 8.1 | 232.1 | -2,201.8 |  | 357.4 |
| 2049 | 107.4 | 0.0 | 110.7 | 250.4 | 8.2 | 245.5 | -2,521.0 |  | 389.6 |
| 2050 | 108.7 | 0.0 | 115.4 | 260.1 | 8.3 | 258.6 | -2,863.4 |  | 422.9 |
| 2051 | 110.0 | 0.0 | 120.2 | 270.2 | 8.4 | 272.0 | -3,229.9 |  | 458.0 |
| 2052 | 111.3 | 0.0 | 124.9 | 280.5 | 8.5 | 285.7 | -3,621.4 |  | 494.7 |
| 2053 | 112.6 | 0.0 | 129.6 | 291.2 | 8.6 | 299.6 | -4,039.1 |  | 533.3 |
| 2054 | 114.0 | 0.0 | 134.3 | 301.7 | 8.7 | 313.3 | -4,483.5 |  | 573.4 |
| 2055 | 115.3 | 0.0 | 138.9 | 312.5 | 8.8 | 327.2 | -4,955.5 |  | 615.3 |
| 2056 | 116.7 | 0.0 | 143.4 | 323.8 | 8.9 | 341.6 | -5,456.5 |  | 659.3 |
| 2057 | 118.1 | 0.0 | 147.9 | 335.2 | 9.0 | 356.0 | -5,987.4 |  | 705.2 |
| 2058 | 119.5 | 0.0 | 152.3 | 346.9 | 9.1 | 370.7 | -6,549.4 |  | 753.2 |
| 2059 | 120.9 | 0.0 | 156.7 | 358.5 | 9.2 | 385.0 | -7,143.0 |  | 802.9 |
| 2060 | 122.3 | 0.0 | 161.0 | 370.1 | 9.3 | 399.4 | -7,769.2 |  | 854.4 |
| 2061 | 123.8 | 0.0 | 165.2 | 382.1 | 9.5 | 414.0 | -8,429.4 |  | 908.3 |
| 2062 | 125.3 | 0.0 | 169.3 | 394.0 | 9.6 | 428.5 | -9,124.2 |  | 964.1 |
| 2063 | 126.8 | 0.0 | 173.4 | 405.8 | 9.7 | 442.7 | -9,854.6 |  | 1,021.8 |
| 2064 | 128.3 | 0.0 | 177.3 | 418.0 | 9.8 | 457.3 | -10,621.9 |  | 1,082.1 |
| 2065 | 129.8 | 0.0 | 181.2 | 430.2 | 9.9 | 471.7 | -11,427.1 |  | 1,144.5 |
| 2066 | 131.4 | 0.0 | 185.0 | 442.3 | 10.0 | 486.0 | -12,271.2 |  | 1,209.2 |
| 2067 | 132.9 | 0.0 | 188.7 | 455.2 | 10.1 | 500.9 | -13,156.0 |  | 1,276.8 |
| 2068 | 134.5 | 0.0 | 192.4 | 468.1 | 10.3 | 515.7 | -14,082.7 |  | 1,346.9 |
| 2069 | 136.1 | 0.0 | 196.0 | 481.1 | 10.4 | 530.6 | -15,052.5 |  | 1,419.7 |
| 2070 | 137.7 | 0.0 | 199.5 | 494.6 | 10.5 | 545.9 | -16,067.2 |  | 1,495.6 |
| 2071 | 139.3 | 0.0 | 202.9 | 508.9 | 10.6 | 561.9 | -17,128.8 |  | 1,574.9 |
| 2072 | 140.9 | 0.0 | 206.3 | 523.1 | 10.8 | 577.7 | -18,238.5 |  | 1,656.9 |
| 2073 | 142.6 | 0.0 | 209.6 | 537.7 | 10.9 | 593.8 | -19,398.2 |  | 1,742.3 |
| 2074 | 144.2 | 0.0 | 212.8 | 552.8 | 11.0 | 610.4 | -20,609.8 |  | 1,831.3 |
| 2075 | 145.9 | 0.0 | 216.1 | 567.4 | 11.1 | 626.5 | -21,874.2 |  | 1,922.9 |
| 2076 | 147.6 | 0.0 | 219.2 | 582.2 | 11.3 | 642.6 | -23,193.3 |  | 2,017.8 |

Based on Intermediate Assumptions of the 2001 Trustees Report
With Ult Real Int Rate of





Table 1-basic PRAs
c Cash Flow From the General Fund of the Treasury to the OASDI Trust Funds--- PV on 1-1-2001 1/
Estimate for this Plan
Estimate for Modified Present Law with Borrowing to Pay Scheduled Benefits with Borrowing to Pay Scheduled Benefits GR for PRA Full Plan Net Total to plus Addl Cash Flow EndOfYear for Balance from the GF withInterest Year
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010 $\begin{array}{cc}\text { (billions of PV 1-1-2001\$) } \\ 0 & -90\end{array}$ $\begin{array}{ll}0 & -90 \\ 0 & -92 \\ 0 & -91 \\ 0 & -173\end{array}$ -90
-183
-273 Borrowing NetAnn Total to
Needed Cash Flow EOYwith In Year 2/ from GF Interest (billions of PV 1-1-2001\$)
0
0
0
0
0
0
0




[^0]:    ${ }^{1}$ The "minimum wage worker" is assumed to work 2000 hours each year at a minimum hourly wage rate of $\$ 5.15$ in 2000 and indexed thereafter by growth in the Social Security average wage index. The minimum wage worker is assumed not to work after the calendar year in which age 60 is attained.

[^1]:    ${ }^{2}$ For example, the PIA of a 15-year minimum wage worker, who becomes disabled at age 42 in 2018, would be increased 12 percent because this worker had OASDI covered earnings in three fourths of the 20 elapsed years.

