



Social Security

Memorandum

Refer to : TCC

Date: April 27, 1998

To: Harry C. Ballantyne, Chief Actuary

From: Stephen C. Goss, Deputy Chief Actuary
Alice H. Wade, Actuary

Subject: Estimated Long-Range OASDI Financial Effects of Comprehensive Proposals of the National Commission on Retirement Policy (NCRP)--INFORMATION

This analysis has been produced at the request of the National Commission on Retirement Policy. The principal staff contact in developing the proposals has been Chuck Blahous, who works for Senator Judd Gregg. Senator Gregg, Senator Breaux, Representative Kolbe, Representative Stenholm, Donald Marron of Paine Webber, and Charles Sanders formerly of Glaxo, Inc. serve as chairmen.

The NCRP has developed two basic comprehensive proposals. The first, referred to as the Defined Benefit, or *DB* plan would alter the current OASDI program through several provisions that would increase revenue and reduce benefits so that the currently-specified combined FICA payroll tax rate of 12.4 percent will be sufficient to finance the program. The second comprehensive plan, referred to as the Individual Savings Account, or *ISA*, would provide for deeper cuts in OASDI benefits so that the program would be adequately financed with a combined payroll tax rate of 10.4 percent. The 2.0 percent balance of the 12.4 percent combined FICA payroll tax rate would be redirected to mandatory individual accounts, collected, held and managed by the Federal Government. The changes to the OASDI program have been designed to achieve long-range actuarial balance, and to result in a combined OASDI trust fund ratio (ratio of trust fund assets to annual outgo) that is stable or rising at the end of the long-range 75-year period.

The attached tables present various financial estimates of the effects of enactment of the *DB* and *ISA* plans. Estimates are also provided for *DB plus* and *ISA plus* plans, which are based on the *DB* and *ISA* plans, respectively, with an *additional* 2.0 percent mandatory payroll tax (increasing the combined FICA rate to 14.4 percent) directed to individual savings accounts. These estimates reflect the combined efforts of the entire long-range staff of the Office of Chief Actuary. Every member of the staff has been

involved in the preparation some aspect of the estimates presented here. All estimates are based on the intermediate assumptions of the 1997 Trustees Report.

The balance of this memorandum provides estimates of the effects of these plans on the OASDI program, a detailed description of our understanding of the provisions of the plans, and analysis of the effects of the plans on benefit replacement rates and the "money's worth" measure of internal real rate of return.

I. Effects on Long-Range OASDI Financing

The *DB* plan would improve the long-range OASDI actuarial balance by an estimated 2.49 percent of taxable payroll, replacing the present-law actuarial deficit of 2.23 percent with a positive actuarial balance of 0.16 percent of taxable payroll. The OASDI annual balance for the year 2070 would improve by 5.95 percent of payroll, to a level of +0.09 percent of payroll. The trust fund assets for the combined OASDI program would increase throughout the long-range period. The trust fund ratio, ratio of trust fund assets to annual outgo, would increase from 153 percent as of the beginning of 1997 to 396 percent as of the beginning of 2022. For each year in the remaining period of the long-range projection period (2023-2071) the trust fund ratio would be between 323 percent and 396 percent. At the beginning of 2072 (the end of the long-range projection period), the trust fund ratio is estimated at 383 percent. The trust fund ratio would be increasing by about 5 percentage points per year at the end of the long range period.

The *ISA* plan would improve the long-range OASDI actuarial balance by an estimated 2.23 percent of taxable payroll, replacing the present-law actuarial deficit of 2.23 percent with an actuarial balance of 0.00 percent of taxable payroll. The OASDI annual balance for the year 2070 would improve by 6.44 percent of payroll, to a level of +0.58 percent of payroll. The trust fund ratio for the combined OASDI program would increase to a peak of 189 percent in 2000, then decline to a fairly stable level of around 60 percent for the years 2043 - 2065. After 2065, the trust fund ratio would begin to rise, reaching 101 percent at the end of the long-range period, at which time the ratio would be rising by about 6 percentage points per year..

The *DB plus* and *ISA plus* plans would have the same effect as the *DB* and *ISA* plans, respectively, on the OASDI program.

II. Provisions of the DB and ISA Plans

Tables 1 and 2 provide a brief listing of the individual provisions of these plans, including the effect of each provision, separately, on the long-range OASDI actuarial balance. This section provides a more detailed description of the provisions for which these estimates have been developed.

Provision 1 of DB and ISA: Reduce the COLA by 0.5 Percentage Point

This provision would reduce the cost of living adjustment for monthly OASDI benefits by 0.5 percentage point below the level anticipated in the 1997 Trustees Report. For the purpose of this provision, it is assumed that the reduction would be effected as either a subtraction from the measured increase in the CPI, a recognition of future changes in the CPI by the Bureau of Labor Statistics that result in reduction in the growth of the CPI, or some combination of these. The estimated 0.71-percent of payroll improvement in the OASDI actuarial balance presumes that there would be no offsetting increase in nominal wage growth rates, or in nominal interest rates, i.e., that the reduction in the COLA is fully realized as an increase in the effective real wage growth and real interest rates for the program.

Provision 2 of DB and ISA: Increase NRA and EEA

Increase the normal retirement age (NRA) and the earliest eligibility age allowed for retired worker benefits (EEA). NRA increases under current law from 65 by two months a year beginning with individuals attaining age 62 in the year 2000, until it reaches 66 for individuals attaining age 62 in the year 2005. While current law then leaves the age at 66 for several years, this provision would continue to phase the NRA upwards by two months a year until it reaches 70 for individuals reaching age 62 in 2029. Under this provision, the EEA would also increase by two months a year beginning with individuals attaining age 62 in the year 2000, until it reaches 65 for individuals attaining age 62 in the year 2017.

After 2029, the NRA would be indexed to maintain a constant number of expected years of life after NRA. Based on current mortality projections this would require an increase in the NRA of two months every three years after 2029. Similarly, after 2029, the EEA would be increased at the same rate as the NRA (two months every three years) to maintain a 5-year differential between the NRA and the EEA.

Each time the EEA is increased by a full year, the number of elapsed years for retired workers is also extended one year. This would result in an increase in the benefit computation period of one year and an increase in the requirement for fully-insured status of one quarter of coverage. Furthermore, the age up to which earnings are indexed in computing the AIME for the PIA benefit formula would be increased by one year.

Modify Actuarial Reduction and Increment Factors

In addition, the early retirement factors and delayed retirement credits would be changed to reflect the fact that the marginal increase in the full (PIA) benefit level for earnings after reaching retirement age is relatively small.

(Reduction and increment factors provided under current law are intended to provide actuarially equivalent lifetime benefits payable at different starting ages for a fixed earnings history.) This relatively small marginal increase results from the weighted PIA benefit formula, which provides a larger marginal amount of benefit per dollar of AIME for low, or early-in-career, earnings. The provision is intended to eliminate the marginal disincentive to work past EEA that is provided by the weighting in the PIA formula. Because the extent of this marginal effect depends upon the level of earnings a worker has had in earlier years, no absolute adjustment can be provided that would be appropriate for all workers. Rough estimates of adjustments to the reduction and increment factors have thus been used.

The chart below displays the proposed monthly early retirement reductions that are applicable for the first 36 months for which benefits are received prior to NRA under both current law and the provision. The reductions that are proposed for the fourth and fifth year before NRA are 12/24% per month (current law reductions are 10/24% per month). The reductions for the fourth and fifth year before NRA are applicable to all new eligibles who reach age 62 after 2017 (the point at which the NRA would first increase to a level that is more than 36 months above the EEA).

Monthly Reduction in Benefits for Each of First 36 Months of Retirement Before NRA

Newly Eligible in:	2000	2001	2002	2003	2004	2005+
Present Law	20/36%	20/36%	20/36%	20/36%	20/36%	20/36%
Proposal	20/36%	21/36%	22/36%	23/36%	24/36%	25/36%

The delayed retirement credit (DRC) under present law is scheduled to increase to 8% per year for workers attaining age 65 after 2007. The DRC would continue to increase at the rate of 0.5 percentage point every two years after 2008, until an ultimate factor of 10 percentage points per year is reached for workers reaching 65 after 2015. The delayed retirement credit applies for months for which retired worker benefits are not received between NRA and age 70. Thus, under this provision, the DRC would no longer apply when the NRA reaches age 70 for those age 65 in 2032.

The ultimate percentage 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 Entitlement:	NRA-5	NRA-4	NRA-3	NRA-2	NRA-1	NRA
Present Law	70%	75%	80%	86.7%	93.3%	100%
Proposal	63%	69%	75%	83.3%	91.7%	100%

Provision 3 of DB and ISA: Cover All State and Local Govt Employees

This provision would require that all employees of State and Local governments newly hired after 1999 be covered under the OASDI program.

Provision 4 of DB and ISA: Reduce Benefit to Aged Spouses to 33 Percent of PIA

This provision would gradually reduce the percent of a retired or disabled worker's PIA that is payable to his/her aged spouse (EEA or above without entitled child in care) from 50 percent to 33 percent. The percentage would be decreased one point per year beginning with aged spouses eligible in 2000, reaching the ultimate 33 percent for those eligible in 2016 and later.

Provision 5 of DB: Change in calculation of AIME

This provision would apply in determining benefits for retired worker and their dependents and for survivors of deceased workers. This provision does not apply in determining benefits for disabled workers and their dependents.

In calculating AIME for all years after 1999, include earnings for all years. Earnings for years more than two years prior to EEA would continue to be wage indexed up to the level of the second year prior to EEA, with no indexing of subsequent years.

Increase the number of benefit computation years by one additional year for each year 2001 through 2005. Under this provision alone, the number of benefit computation years for a retired worker turning age 62 in 2005 would be 40. Under current law, the number of benefit computation years is determined by subtracting 5 *dropout* years from the number of *elapsed* years (years age 22 through the year prior to reaching EEA). Under this proposed provision, the reduction in the number of benefit computation years would be accomplished by reducing the number of *dropout* years, ultimately to zero.

Provision 5 of ISA: Change in calculation of AIME

This provision would be the same as provided for the DB plan except that the phase in of the longer benefit computation period would be slower. The increase in the number of benefit computation years would be by one additional year for each year 2002, 2004, 2006, 2008, and 2010.

Provision 6 of DB and ISA: Eliminate the Earnings Test at NRA

This provision would eliminate the earnings test at NRA, which requires a reduction in the monthly benefit payable to individuals at or above NRA by \$1 for every \$3 that their earnings exceed a specified exempt amount. The long-range cost of this provision is negligible because months for which benefits are withheld result in later recomputation of the percent of PIA payable. Thus the earnings test does not reduce benefits, but defers benefits until substantial earnings have ceased.

Provision 7 of DB and ISA: Credit All Revenue from Taxation of OASDI Benefits to OASDI by 2019

This provision redirects revenue collected by the IRS from Federal income taxes payable on OASDI benefits, in excess of the tax on 50 percent of such benefits, from the Medicare HI trust fund to the OASDI trust funds. The provision would redirect 10 percent of this revenue for 2010, 20 percent for 2011, ... , and 100 percent for 2019 and later.

Provision 8 of DB and ISA: Establish a minimum PIA level

For beneficiaries newly eligible in 2010 and later, establish a minimum PIA amount as described below:

For Retired Workers: The minimum PIA would apply to retired workers with at least 80 quarters of coverage. It would equal 60% of the *Aged Individual Poverty Level* (see below for definition) for individuals with 80 quarters of coverage and 100% of the *Aged Individual Poverty Level* for individuals with at least 160 quarters of coverage. The percentage of the *Aged Individual Poverty Level* defining the minimum PIA for an individual with more than 80 quarters and less than 160 quarters of coverage would be prorated between 60% and 100%, based on their number of quarters of coverage.

For Disabled Workers: A minimum PIA for disability beneficiaries

would be similar, equaling 60% of the *Aged Individual Poverty Level* for individuals whose quarters of coverage equal to twice the number of their elapsed years and 100% of the *Aged Individual Poverty Level* for individuals whose quarters of coverage equal four times their number of elapsed years.

The minimum PIA is phased in during the years 2006 through 2009. For new eligibles in 2006, the percentage of the *Aged Individual Poverty Level* is one-fifth of the fully phased in percentage in 2010. This fraction increases by one-fifth for each year during the phase in period, reaching four-fifths for 2009.

The *Aged Individual Poverty Level* for 1995 is \$7,761. The *Aged Individual Poverty Level* for a given year is determined by indexing the 1995 level to increases in the CPI until 2010, and by increases in the average wage index thereafter. Minimum PIA levels would increase by the COLA after benefit eligibility in all cases.

Provision 9 of ISA: Reduce Upper Two PIA Factors

This provision reduce the upper two factors of the PIA benefit formula (32 and 15) by 2 percent per year (by multiplying them successively by a factor of 0.98) for 2001 through 2020. The ultimate factors applicable for beneficiaries newly eligible in 2020 and later would be 21.36 and 10.01 percent, respectively. The first PIA factor, 90 percent, would be unchanged.

Provision 10 of ISA: Redirect 2 Percentage Points of Payroll Tax

This provision would redirect 2 percentage points of the employee's share of the FICA payroll tax for the funding of an individual savings account (ISA) for OASDI taxable earnings after 1999 of workers who were under age 55 at the beginning of the year 2000. A similar redirection would occur for taxable self-employment earnings. All earnings would be collected by the Federal Government in the same manner that payroll taxes are collected currently. Accounts would be managed and invested, under the direction of the worker, centrally, as suggested by the Advisory Council Individual Account proposal. For the purpose of these estimates, it is assumed that administrative expenses would be 0.105 percent per year and that account balances would be invested roughly half in U.S. Government long-term securities and half in private equities (stocks), or the equivalent.

III. Internal Real Rates of Return under the DB and ISA Plans

Internal real rates of return are derived from the estimates of expected lifetime contributions and benefits from both the OASDI program and the individual accounts under the various plans. An internal real rate of return for a hypothetical worker is the real interest rate that equates the present value of expected lifetime contributions to the present value of expected lifetime benefits. Accumulation of individual accounts is assumed to be similar to the approach for the IA (Gramlich) plan of the Advisory Council. Investment is assumed to be split between stocks (with a real yield of 7 percent) and bonds (with a real yield of 2.7 percent). Accounts are assumed to be converted to an annuity at retirement with an expected net real yield equal to 2.7 percent. For more details on the methods and assumptions used in determining internal real rates of return, please consult Appendix II of the *Report on the 1994-1996 Advisory Council (Volume I)*.

Tables IRR.1 through IRR.4 provide estimated internal real rates of return under the following plans:

- PL Present Law
- PLPAYGO Present law with payroll taxes increased in order to maintain the Trust Fund Ratio at approximately 100%.
- DB *DB* plan
- DB+2,401K *DB plus* plan, with assets in individual accounts managed and invested as suggested by the Advisory Council Individual Account proposal (central yield assumptions).
- DB+2,Bond *DB plus* plan, with individual accounts yielding an ultimate real rate of return (net of expenses) of 2.65% (low yield assumptions).
- DB+2,High *DB plus* plan, with the stock portion of individual accounts yielding an ultimate real rate of return of x.x% (high yield assumptions).
- ISA-NoIA *ISA* plan without the provision of creating individual accounts.
- ISA+2,401K *ISA* plan, using the central yield assumptions for assets in individual accounts.
- ISA+2,Bond *ISA* plan, using the low yield assumptions for assets in individual accounts.
- ISA+2,High *ISA* plan, using the high yield assumptions for assets in individual accounts.
- ISA+4,401K *ISA plus* plan, using the central yield assumptions for assets in individual accounts.
- ISA+4,Bond *ISA plus* plan, using the low yield assumptions for assets in individual accounts.
- ISA+4,High *ISA plus* plan, using the high yield assumptions for assets in individual accounts.

Real rates of return are presented for hypothetical single male workers, single

female workers, one-earner couples, and two-earner couples. For the single and one-earner hypothetical workers, real rates of return are given assuming steady low, average, high, and maximum taxable earnings. For the two-earner couple, five different combinations of steady earnings levels are given.

IV. Benefit Replacement Rates under the DB and ISA Plans

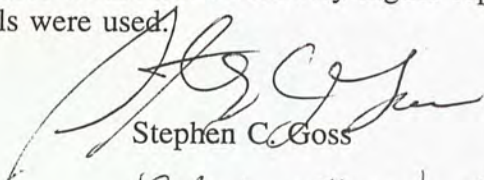
Tables RR.1 through RR.4 provide estimated replacement rates at retirement under the following plans, as defined above.

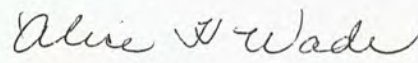
- | | |
|-------------|--------------|
| • PL | • ISA+2,Bond |
| • DB | • ISA+2,401K |
| • DB+2,Bond | • ISA+2,High |
| • DB+2,401K | • ISA+4,Bond |
| • DB+2,High | • ISA+4,401K |
| • ISA-NoIA | • ISA+4,High |

Replacement rates are presented for hypothetical single workers (worker benefit only) with steady low, average, high, and maximum taxable earnings. Replacement rates are presented for workers born between 1932 and 1965, who retire at age 65, and for workers born between 1930 and 2003, who retire at age 67.

For the plans with individual accounts, the account balances are assumed to be used to purchase life annuities with cost-of-living increases. It should be noted that the assumption of steady earnings at a stable, wage-indexed level will generally tend to make the account balance portion of the benefit higher than would be the case if a worker were assumed to have lower real earnings in the earlier years of his/her career. Also, as stated earlier, replacement rates are given for single workers only. For married couples, individual accounts would be used to purchase joint and survivor annuities. These would pay less per month than the same account could provide though a single-life annuity for the worker alone.

Replacement rates are the ratio of estimated first-year benefits to prior-year earnings and are useful indicators of the value and adequacy of initial benefits across generations. For the purpose of comparing different plans, replacement rates are only useful if the level of contributions is kept in mind. A plan with higher contributions to the individual account should be expected to produce higher replacement rates. In addition, replacement rates take into account the first year of benefits only. Plans which provide higher cost-of-living increases would have relatively higher replacement rates if other than first year benefits levels were used.


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Attachments

Table 1. Estimated Long-Range OASDI Financial Effect of DB Plan Developed by the National Commission on Retirement Policy (NCRP)

Provision	Estimated Change in Long-range OASDI Actuarial Balance (percent of taxable payroll)
1 Reduce the COLA for OASDI benefits by 0.5 percentage point beginning December 2000.	0.71
2 Increase NRA by 2 months per year, until it reaches age 70 for individuals attaining age 62 in 2029. Increase EEA by 2 months per year until it reaches 65 for individuals attaining age 62 in 2017. After 2029, increase both by about two months every three years, to maintain expected years of retirement at a constant level. Increase the size of early retirement factors and delayed retirement credits (to reflect marginal gain in benefit for work after retirement age).	1.62
3 Extend OASDI coverage to all State and local government employees hired after 1999.	0.25
4 Reduce the percent of PIA payable to aged spouse beneficiaries from 50 to 33 percent by 2016 (1 percentage point per year, 2000-16).	0.17
5 In calculating AIME for new benefit eligibility after 1999, include earnings for all years. Also, increase the benefit computation period by up to 5 additional years for new eligibles (by one additional year for new eligibles in each year 2001-2005).	0.41
6 Effective 1/1/2000, eliminate the retirement earnings test for individuals who are at or past NRA.	<u>1/</u>
7 Credit all revenue from taxation of OASDI benefits to the OASDI trust funds by 2019 (phase revenue from HI to OASDI during the period 2010-2019).	0.21
8 Beginning in 2006, establish a minimum PIA level for newly eligible retired workers with at least 80 quarters of coverage (newly eligible disabled workers with quarters of coverage equal to twice their number of elapsed years). The minimum PIA level will be fully phased in 2010, equaling 100% of the <i>aged poverty level</i> for newly eligible retired workers with at least 160 quarters of coverage (newly eligible disabled workers with quarters of coverage equal to four times their number of elapsed years). The fully phased in minimum PIA for retired workers with less than 160 quarters of coverage will be reduced, equaling 60% of the <i>aged poverty level</i> for those with 80 quarters of coverage.	-0.27
Total for Provisions 1 through 8 (including interaction among provisions)	2.49

1/ Negligible (between -0.005 and .005 percent of payroll) change in the OASDI long-range actuarial balance.

Based on the 1997 Trustees Report, under the intermediate projections:

a) Long-range actuarial balance for the 75-year period (1997-2071) is -2.23 percent of taxable payroll.

Table 2. Estimated Long-Range OASDI Financial Effect of ISA Plan Developed by the National Commission on Retirement Policy (NCRP)

Provision	Estimated Change in Long-range OASDI Actuarial Balance (percent of taxable payroll)
1 Reduce the COLA for OASDI benefits by 0.5 percentage point beginning December	0.71
2 Increase NRA by 2 months per year, until it reaches age 70 for individuals attaining age 62 in 2029. Increase EEA by 2 months per year until it reaches 65 for individuals attaining age 62 in 2017. After 2029, increase both by about two months every three years, to maintain expected years of retirement at a constant level. Increase the size of early retirement factors and delayed retirement credits (to reflect marginal gain in benefit for work after retirement age).	1.62
3 Extend OASDI coverage to all State and local government employees hired after 1999.	0.25
4 Reduce the percent of PIA payable to aged spouse beneficiaries from 50 to 33 percent by 2016 (1 percentage point per year, 2000-16).	0.17
5 In calculating AIME for new benefit eligibility after 1999, include earnings for all years. Also, increase the benefit computation period by up to 5 additional years for new eligibles (by one additional year for new eligibles in each year 2002, 04, 06, 08, 10).	0.39
6 Effective 1/1/2000, eliminate the retirement earnings test for individuals who are at or past NRA.	<u>1/</u>
7 Credit all revenue from taxation of OASDI benefits to the OASDI trust funds by 2019 (phase revenue from HI to OASDI during the period 2010-2019).	0.21
8 Beginning in 2006, establish a minimum PIA level for newly eligible retired workers with at least 80 quarters of coverage (newly eligible disabled workers with quarters of coverage equal to twice their number of elapsed years). The minimum PIA level will be fully phased in 2010, equaling 100% of the <i>aged poverty level</i> for newly eligible retired workers with at least 160 quarters of coverage (newly eligible disabled workers with quarters of coverage equal to four times their number of elapsed years). The fully phased in minimum PIA for retired workers with less than 160 quarters of coverage will be reduced, equaling 60% of the <i>aged poverty level</i> for those with 80 quarters of coverage.	-0.27
9 Reduce the 0.32 and 0.15 PIA formula factors by 2 percent (multiply by 0.98) for each year 2001-2020. Factors for 2020 and later are 21.36% and 10.01%, respectively.	1.72
10 For everyone under age 55 in 2000, redirect 2 percentage points of the OASDI employee payroll tax to individual accounts (ISA).	-1.82
Total for Provisions 1 through 11 (including interaction among provisions)	2.23

1/ Negligible (between -0.005 and .005 percent of payroll) change in the OASDI long-range actuarial balance.

Based on the 1997 Trustees Report, under the intermediate projections:

a) Long-range actuarial balance for the 75-year period (1997-2071) is -2.23 percent of taxable payroll.

Social Security Administration
Office of the Chief Actuary
April 6, 1998

**Table RR.1 Comparison of Replacement Rates for Steady LOW Earners
under Various NCRP Options**

Year of Birth		Workers Retiring at age 65											
Year of Birth	Age at Retirement	Present Law	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1932	1997	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
1935	2000	57.8	57.8	57.8	57.8	57.8	57.8	57.8	57.8	57.8	57.8	57.8	57.8
1940	2005	55.2	58.8	58.8	58.8	58.8	58.0	58.0	58.0	58.0	58.0	58.0	58.0
1945	2010	53.1	51.7	51.7	51.7	51.7	49.5	49.5	49.5	49.5	49.5	49.5	49.5
1950	2015	53.2	49.9	52.5	52.8	52.9	49.9	52.5	52.8	52.9	55.1	55.7	56.0
1955	2020	52.5	46.3	49.9	50.5	50.9	46.3	49.9	50.5	50.9	53.5	54.7	55.4
1960	2025	49.4	43.2	47.9	49.1	49.8	43.2	47.9	49.1	49.8	52.6	54.9	56.4
1965	2030	49.4	40.1	46.0	48.0	49.2	40.1	46.0	48.0	49.2	51.9	55.8	58.3

Year of Birth		Workers Retiring at age 67											
Year of Birth	Age at Retirement	Present Law	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1930	1997	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
1933	2000	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8
1938	2005	63.6	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
1943	2010	60.9	63.0	63.0	63.0	63.0	60.7	60.7	60.7	60.7	60.7	60.7	60.7
1948	2015	60.9	59.2	62.0	62.2	62.4	59.2	62.0	62.2	62.4	64.8	65.3	65.6
1953	2020	60.9	56.0	59.8	60.4	60.7	56.0	59.8	60.4	60.7	63.6	64.7	65.4
1958	2025	57.9	52.6	57.5	58.6	59.2	52.6	57.5	58.6	59.2	62.4	64.6	65.9
1963	2030	56.4	48.4	54.5	56.4	57.5	48.4	54.5	56.4	57.5	60.7	64.3	66.7
1968	2035	56.4	45.1	52.5	55.5	57.5	45.1	52.5	55.5	57.5	60.0	65.9	69.9
1973	2040	56.5	43.9	52.8	57.2	60.5	43.9	52.8	57.2	60.5	61.7	70.6	77.2
1978	2045	56.5	43.3	53.7	60.3	65.5	43.3	53.7	60.3	65.5	64.2	77.3	87.7
1983	2050	56.5	42.1	52.4	58.8	64.0	42.1	52.4	58.8	64.0	62.7	75.6	85.9
1988	2055	56.5	41.4	51.7	58.1	63.1	41.4	51.7	58.1	63.1	61.9	74.7	84.9
1993	2060	56.5	40.8	51.0	57.3	62.4	40.8	51.0	57.3	62.4	61.2	73.9	84.0
1998	2065	56.5	39.6	49.7	56.0	61.1	39.6	49.7	56.0	61.1	59.9	72.5	82.5
2003	2070	56.5	38.9	49.0	55.2	60.2	38.9	49.0	55.2	60.2	59.0	71.6	81.6

Notes: The replacement rate is the percent of earnings in the *last year* of work that is replaced by benefits in the *first year* of retirement. Benefit levels under the proposals (both **DB** and **ISA**) increase with a cost-of-living adjustment (COLA) that is specified to be 0.5 percent below the present law COLA. Therefore, lifetime benefits under the proposals would be, on average, about 5 percent lower, in comparison with present law benefits, than is indicated above for the first year of retirement.

Based on the intermediate assumptions of the 1997 Trustees Report

**Table RR.2 Comparison of Replacement Rates for Steady AVERAGE Earners
under Various NCRP Options**

Year of Birth		Workers Retiring at age 65											
Year of Birth	Age at Retirement	Present Law	DB	DB BOND	DB 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1932	1997	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
1935	2000	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
1940	2005	41.0	44.9	44.9	44.9	44.9	43.8	43.8	43.8	43.8	43.8	43.8	43.8
1945	2010	39.5	38.7	38.7	38.7	38.7	35.4	35.4	35.4	35.4	35.4	35.4	35.4
1950	2015	39.5	35.4	38.0	38.3	38.5	30.5	33.1	33.4	33.6	35.7	36.3	36.6
1955	2020	39.0	32.3	35.9	36.5	36.8	26.3	29.9	30.5	30.9	33.5	34.7	35.5
1960	2025	36.7	30.1	34.9	36.0	36.7	24.6	29.3	30.4	31.1	34.0	36.3	37.7
1965	2030	36.7	28.0	33.9	35.8	37.1	22.8	28.7	30.6	31.9	34.6	38.5	41.0

Year of Birth		Workers Retiring at age 67											
Year of Birth	Age at Retirement	Present Law	DB	DB BOND	DB 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1930	1997	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
1933	2000	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
1938	2005	47.4	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5
1943	2010	45.4	47.6	47.6	47.6	47.6	44.4	44.4	44.4	44.4	44.4	44.4	44.4
1948	2015	45.4	44.7	47.4	47.7	47.8	39.4	42.2	42.5	42.6	45.0	45.5	45.8
1953	2020	45.4	41.3	45.1	45.7	46.0	34.3	38.1	38.7	39.0	42.0	43.1	43.8
1958	2025	43.2	38.0	43.0	44.0	44.7	30.8	35.7	36.8	37.5	40.7	42.8	44.1
1963	2030	42.1	35.0	41.1	43.0	44.2	28.3	34.5	36.3	37.5	40.6	44.3	46.7
1968	2035	42.1	32.6	40.1	43.0	45.0	26.4	33.9	36.8	38.8	41.3	47.2	51.3
1973	2040	42.1	31.7	40.6	45.1	48.4	25.7	34.6	39.1	42.4	43.5	52.4	59.1
1978	2045	42.1	31.3	41.7	48.3	53.5	25.3	35.8	42.3	47.6	46.2	59.3	69.8
1983	2050	42.1	30.4	40.8	47.2	52.3	24.6	35.0	41.4	46.5	45.3	58.2	68.4
1988	2055	42.1	29.4	39.7	46.0	51.1	23.9	34.1	40.5	45.6	44.4	57.2	67.8
1993	2060	42.1	29.0	39.2	45.5	50.6	23.5	33.7	40.1	45.1	43.9	56.6	66.7
1998	2065	42.1	28.1	38.2	44.6	49.6	22.8	33.0	39.3	44.3	43.1	55.7	65.8
2003	2070	42.1	27.1	37.2	43.5	48.5	22.1	32.2	38.5	43.4	42.3	54.8	64.8

Notes: The replacement rate is the percent of earnings in the *last year* of work that is replaced by benefits in the *first year* of retirement. Benefit levels under the proposals (both DB and ISA) increase with a cost-of-living adjustment (COLA) that is specified to be 0.5 percent below the present law COLA. Therefore, lifetime benefits under the proposals would be, on average, about 5 percent lower, in comparison with present law benefits, than is indicated above for the first year of retirement.

Based on the intermediate assumptions of the 1997 Trustees Report

**Table RR.3 Comparison of Replacement Rates for Steady HIGH Earners
under Various NCRP Options**

		<i>Workers Retiring at age 65</i>										
Year of Birth	Year Present	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1932	1997	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1
1935	2000	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.8
1940	2005	33.7	34.4	34.4	34.4	33.5	33.5	33.5	33.5	33.5	33.5	33.5
1945	2010	32.6	31.2	31.2	31.2	28.1	28.1	28.1	28.1	28.1	28.1	28.1
1950	2015	32.6	29.1	31.7	32.0	24.3	26.9	27.2	27.3	29.5	30.1	30.4
1955	2020	32.2	26.8	30.4	31.0	20.8	24.4	25.1	25.4	28.1	29.3	30.0
1960	2025	30.3	25.0	29.7	30.8	19.4	24.2	25.3	26.0	28.9	31.2	32.6
1965	2030	30.3	23.2	29.1	31.0	18.1	24.0	25.9	27.2	29.9	33.7	36.3

		<i>Workers Retiring at age 67</i>										
Year of Birth	Year Present	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1930	1997	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
1933	2000	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4
1938	2005	38.7	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
1943	2010	37.3	37.5	37.5	37.5	34.6	34.6	34.6	34.6	34.6	34.6	34.6
1948	2015	37.3	35.6	38.3	38.7	30.8	33.5	33.8	33.9	36.3	36.8	37.1
1953	2020	37.3	33.4	37.2	38.1	26.8	30.7	31.2	31.6	34.5	35.6	36.3
1958	2025	35.5	31.0	36.0	37.7	24.1	29.0	30.1	30.8	34.0	36.1	37.4
1963	2030	34.6	28.6	34.7	37.7	22.2	28.3	30.2	31.3	34.5	38.1	40.5
1968	2035	34.6	26.6	34.1	39.0	20.6	28.1	31.0	33.1	35.6	41.4	45.5
1973	2040	34.6	25.9	34.8	42.6	20.1	29.0	33.5	36.8	37.9	46.8	53.5
1978	2045	34.6	25.5	36.0	47.8	19.8	30.3	36.8	42.0	40.7	53.8	64.3
1983	2050	34.6	24.8	35.2	46.7	19.3	29.6	36.0	41.2	39.9	52.8	63.1
1988	2055	34.6	24.2	34.4	45.9	18.8	29.1	35.4	40.5	39.3	52.1	62.8
1993	2060	34.6	23.8	34.0	45.4	18.5	28.7	35.1	40.1	38.9	51.6	61.7
1998	2065	34.6	23.1	33.3	44.6	18.0	28.1	34.4	39.4	38.3	50.9	60.9
2003	2070	34.6	22.5	32.6	43.8	17.5	27.6	33.9	38.8	37.7	50.2	60.2

Notes: The replacement rate is the percent of earnings in the *last year* of work that is replaced by benefits in the *first year* of retirement. Benefit levels under the proposals (both DB and ISA) increase with a cost-of-living adjustment (COLA) that is specified to be 0.5 percent below the present law COLA. Therefore, lifetime benefits under the proposals would be, on average, about 5 percent lower, in comparison with present law benefits, than is indicated above for the first year of retirement.

Based on the intermediate assumptions of the 1997 Trustees Report

**Table RR.4 Comparison of Replacement Rates for Steady MAXIMUM Earners
under Various NCRP Options**

		Workers Retiring at age 65										
Year of Birth	Year Present Age	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1932	1997	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
1935	2000	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
1940	2005	25.6	25.8	25.8	25.8	25.1	25.1	25.1	25.1	25.1	25.1	25.1
1945	2010	25.4	23.7	23.7	23.7	21.2	21.2	21.2	21.2	21.2	21.2	21.2
1950	2015	25.9	22.5	25.1	25.5	18.5	21.1	21.4	21.6	23.7	24.3	24.6
1955	2020	25.8	21.1	24.7	25.3	16.0	19.6	20.2	20.6	23.2	24.5	25.2
1960	2025	24.3	19.9	24.6	25.8	15.1	19.9	21.0	21.7	24.6	26.9	28.3
1965	2030	24.2	18.5	24.4	26.4	14.1	20.0	21.9	23.2	25.9	29.7	32.3

		Workers Retiring at age 67										
Year of Birth	Year Present Age	DB	DB+2 BOND	DB+2 401K	DB+2 HIGH	ISA-NO IA	ISA+2 BOND	ISA+2 401K	ISA+2 HIGH	ISA+4 BOND	ISA+4 401K	ISA+4 HIGH
1930	1997	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1
1933	2000	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
1938	2005	29.5	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
1943	2010	29.1	28.5	28.5	28.5	26.2	26.2	26.2	26.2	26.2	26.2	26.2
1948	2015	29.7	27.6	30.3	30.8	23.6	26.4	26.6	26.8	29.1	29.7	29.9
1953	2020	29.9	26.3	30.1	30.7	20.7	24.6	25.1	25.5	28.4	29.5	30.2
1958	2025	28.5	24.8	29.7	30.8	18.8	23.7	24.8	25.5	28.7	30.8	32.1
1963	2030	27.7	22.9	29.1	30.9	17.3	23.5	25.3	26.5	29.6	33.3	35.7
1968	2035	27.7	21.4	28.8	31.8	16.2	23.6	26.6	28.6	31.1	37.0	41.1
1973	2040	27.7	20.8	29.7	34.1	15.7	24.6	29.1	32.4	33.5	42.5	49.1
1978	2045	27.7	20.5	30.9	37.5	15.5	26.0	32.5	37.8	36.4	49.5	60.0
1983	2050	27.6	19.9	30.2	36.7	15.1	25.4	31.8	37.0	35.7	48.6	58.9
1988	2055	27.6	19.3	29.6	36.0	14.7	24.9	31.3	36.4	35.2	47.9	58.1
1993	2060	27.6	19.0	29.2	35.6	14.4	24.6	31.0	36.0	34.8	47.5	57.6
1998	2065	27.6	18.5	28.6	34.9	14.0	24.2	30.5	35.5	34.3	46.9	57.0
2003	2070	27.6	17.9	28.0	34.3	13.6	23.7	30.0	35.0	33.8	46.3	56.3

Notes: The replacement rate is the percent of earnings in the *last year* of work that is replaced by benefits in the *first year* of retirement. Benefit levels under the proposals (both DB and ISA) increase with a cost-of-living adjustment (COLA) that is specified to be 0.5 percent below the present law COLA. Therefore, lifetime benefits under the proposals would be, on average, about 5 percent lower, in comparison with present law benefits, than is indicated above for the first year of retirement.

**TABLE IRR1: Internal Rates of Return (in percent)
for Various NCRP Proposals**

Single Male (Low Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	4.33	3.08	2.69	2.39	2.45	2.47	2.42	2.5	2.6	2.66	2.71
PL PAYGO	4.33	3.08	2.69	2.39	2.45	2.47	2.48	2.29	2.01	1.67	1.52
DB	4.33	3.07	2.71	2.66	2.75	2.65	2.55	2.55	2.58	2.58	2.60
DB+2 401k	4.33	3.07	2.71	2.66	2.77	2.71	2.73	2.95	3.12	3.13	3.14
DB+2 BOND	4.33	3.07	2.71	2.66	2.76	2.67	2.62	2.69	2.75	2.75	2.76
DB+2 HIGH	4.33	3.07	2.71	2.66	2.78	2.73	2.80	3.14	3.40	3.41	3.42
ISA-NO IA	4.33	3.07	2.71	2.57	2.74	2.64	2.54	2.55	2.58	2.58	2.60
ISA+2 401K	4.33	3.07	2.71	2.57	2.88	2.89	3.03	3.41	3.69	3.69	3.70
ISA+2 BOND	4.33	3.07	2.71	2.57	2.87	2.86	2.92	3.15	3.30	3.30	3.31
ISA+2 HIGH	4.33	3.07	2.71	2.57	2.89	2.91	3.10	3.60	3.97	3.98	3.99
ISA+4 401K	4.33	3.07	2.71	2.57	2.90	2.95	3.18	3.71	4.04	4.05	4.06
ISA+4 BOND	4.33	3.07	2.71	2.57	2.87	2.88	2.97	3.23	3.38	3.38	3.39
ISA+4 HIGH	4.33	3.07	2.71	2.57	2.91	2.99	3.31	4.03	4.51	4.52	4.52

Single Male (Average Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	2.73	1.94	1.64	1.37	1.43	1.45	1.41	1.49	1.60	1.68	1.73
PL PAYGO	2.73	1.94	1.64	1.37	1.43	1.45	1.54	1.33	1.04	0.74	0.61
DB	2.73	1.94	1.66	1.70	1.52	1.38	1.29	1.33	1.33	1.37	1.36
DB+2 401k	2.73	1.94	1.66	1.70	1.55	1.46	1.53	1.83	2.02	2.05	2.04
DB+2 BOND	2.73	1.94	1.66	1.70	1.53	1.42	1.39	1.53	1.58	1.62	1.61
DB+2 HIGH	2.73	1.94	1.66	1.70	1.56	1.49	1.61	2.05	2.34	2.37	2.36
ISA-NO IA	2.73	1.94	1.66	1.52	1.14	0.80	0.64	0.62	0.59	0.62	0.62
ISA+2 401K	2.73	1.94	1.66	1.52	1.33	1.16	1.31	1.76	2.03	2.05	2.05
ISA+2 BOND	2.73	1.94	1.66	1.52	1.31	1.11	1.16	1.41	1.52	1.54	1.54
ISA+2 HIGH	2.73	1.94	1.66	1.52	1.34	1.19	1.41	2.01	2.41	2.43	2.42
ISA+4 401K	2.73	1.94	1.66	1.52	1.37	1.26	1.56	2.22	2.61	2.62	2.61
ISA+4 BOND	2.73	1.94	1.66	1.52	1.33	1.16	1.28	1.61	1.76	1.78	1.77
ISA+4 HIGH	2.73	1.94	1.66	1.52	1.39	1.31	1.74	2.63	3.19	3.19	3.19

Single Male (High Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	2.41	1.55	1.20	0.85	0.83	0.81	0.76	0.85	0.96	1.04	1.10
PL PAYGO	2.41	1.55	1.20	0.85	0.83	0.81	0.68	0.42	0.12	-0.16	-0.27
DB	2.41	1.55	1.22	1.02	0.82	0.66	0.56	0.58	0.59	0.62	0.63
DB+2 401k	2.41	1.55	1.22	1.02	0.86	0.77	0.86	1.19	1.41	1.43	1.44
DB+2 BOND	2.41	1.55	1.22	1.02	0.84	0.72	0.71	0.85	0.93	0.96	0.96
DB+2 HIGH	2.41	1.55	1.22	1.02	0.87	0.80	0.95	1.43	1.77	1.79	1.79
ISA-NO IA	2.41	1.55	1.22	0.80	0.35	-0.05	-0.23	-0.26	-0.28	-0.26	-0.25
ISA+2 401K	2.41	1.55	1.22	0.80	0.58	0.36	0.55	1.04	1.36	1.37	1.37
ISA+2 BOND	2.41	1.55	1.22	0.80	0.56	0.31	0.37	0.64	0.78	0.79	0.80
ISA+2 HIGH	2.41	1.55	1.22	0.80	0.59	0.40	0.66	1.33	1.78	1.79	1.79
ISA+4 401K	2.41	1.55	1.22	0.80	0.63	0.49	0.87	1.60	2.05	2.05	2.05
ISA+4 BOND	2.41	1.55	1.22	0.80	0.59	0.38	0.54	0.91	1.11	1.11	1.12
ISA+4 HIGH	2.41	1.55	1.22	0.80	0.65	0.56	1.07	2.06	2.68	2.68	2.69

Single Male (Maximum Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	2.29	1.16	0.71	0.29	0.22	0.12	0.00	0.09	0.21	0.30	0.36
PL PAYGO	2.29	1.16	0.71	0.29	0.22	0.12	-0.06	-0.33	-0.63	-0.88	-0.98
DB	2.29	1.16	0.73	0.41	0.12	-0.09	-0.20	-0.18	-0.17	-0.13	-0.13
DB+2 401k	2.29	1.16	0.73	0.41	0.18	0.06	0.16	0.56	0.83	0.85	0.86
DB+2 BOND	2.29	1.16	0.73	0.41	0.16	0.00	-0.01	0.18	0.28	0.31	0.32
DB+2 HIGH	2.29	1.16	0.73	0.41	0.20	0.10	0.27	0.84	1.23	1.25	1.25
ISA-NO IA	2.29	1.16	0.73	0.16	-0.42	-0.89	-1.08	-1.11	-1.12	-1.09	-1.09
ISA+2 401K	2.29	1.16	0.73	0.16	-0.12	-0.39	-0.18	0.39	0.75	0.76	0.77
ISA+2 BOND	2.29	1.16	0.73	0.16	-0.15	-0.46	-0.39	-0.08	0.08	0.10	0.11
ISA+2 HIGH	2.29	1.16	0.73	0.16	-0.10	-0.35	-0.05	0.71	1.22	1.24	1.24
ISA+4 401K	2.29	1.16	0.73	0.16	-0.05	-0.22	0.21	1.07	1.58	1.58	1.59
ISA+4 BOND	2.29	1.16	0.73	0.16	-0.10	-0.35	-0.16	0.29	0.52	0.54	0.54
ISA+4 HIGH	2.29	1.16	0.73	0.16	-0.02	-0.14	0.45	1.58	2.27	2.27	2.28

Based on the intermediate assumptions of the 1997 Trustees Report

**TABLE IRR2: Internal Rates of Return (in percent)
for Various NCRP Proposals**

Single Female (Low Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	5.16	3.72	3.25	2.93	2.97	2.97	2.88	2.95	3.03	3.08	3.11
PL PAYGO	5.16	3.72	3.25	2.93	2.97	2.97	2.93	2.75	2.45	2.11	1.94
DB	5.16	3.72	3.27	3.18	3.24	3.13	2.99	2.97	2.97	2.95	2.95
DB+2 401k	5.16	3.72	3.27	3.18	3.25	3.16	3.09	3.22	3.32	3.30	3.30
DB+2 BOND	5.16	3.72	3.27	3.18	3.24	3.13	3.00	3.01	3.01	2.99	2.99
DB+2 HIGH	5.16	3.72	3.27	3.18	3.26	3.18	3.15	3.38	3.55	3.53	3.53
ISA-NO IA	5.16	3.72	3.27	3.10	3.23	3.12	2.98	2.97	2.96	2.95	2.95
ISA+2 401K	5.16	3.72	3.27	3.10	3.35	3.33	3.38	3.65	3.84	3.82	3.82
ISA+2 BOND	5.16	3.72	3.27	3.10	3.33	3.30	3.28	3.43	3.52	3.50	3.50
ISA+2 HIGH	5.16	3.72	3.27	3.10	3.35	3.34	3.44	3.81	4.08	4.06	4.06
ISA+4 401K	5.16	3.72	3.27	3.10	3.35	3.35	3.46	3.83	4.06	4.04	4.04
ISA+4 BOND	5.16	3.72	3.27	3.10	3.33	3.30	3.29	3.43	3.51	3.49	3.48
ISA+4 HIGH	5.16	3.72	3.27	3.10	3.37	3.39	3.57	4.10	4.46	4.44	4.44

Single Female (Average Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.65	2.67	2.27	1.97	2.01	2.02	1.93	2.01	2.09	2.15	2.19
PL PAYGO	3.65	2.67	2.27	1.97	2.01	2.02	2.05	1.85	1.54	1.25	1.10
DB	3.65	2.67	2.29	2.29	2.08	1.92	1.79	1.81	1.77	1.80	1.77
DB+2 401k	3.65	2.67	2.29	2.29	2.10	1.98	1.96	2.19	2.30	2.32	2.30
DB+2 BOND	3.65	2.67	2.29	2.29	2.08	1.94	1.85	1.93	1.93	1.95	1.92
DB+2 HIGH	3.65	2.67	2.29	2.29	2.10	2.01	2.04	2.38	2.58	2.60	2.58
ISA-NO IA	3.65	2.67	2.29	2.12	1.72	1.38	1.17	1.14	1.08	1.10	1.07
ISA+2 401K	3.65	2.67	2.29	2.12	1.88	1.68	1.74	2.10	2.30	2.31	2.29
ISA+2 BOND	3.65	2.67	2.29	2.12	1.87	1.63	1.61	1.79	1.86	1.87	1.85
ISA+2 HIGH	3.65	2.67	2.29	2.12	1.89	1.70	1.83	2.32	2.63	2.64	2.62
ISA+4 401K	3.65	2.67	2.29	2.12	1.91	1.75	1.93	2.46	2.76	2.76	2.74
ISA+4 BOND	3.65	2.67	2.29	2.12	1.88	1.67	1.69	1.92	2.01	2.02	2.00
ISA+4 HIGH	3.65	2.67	2.29	2.12	1.92	1.80	2.09	2.82	3.28	3.28	3.27

Single Female (High Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.37	2.34	1.89	1.50	1.45	1.41	1.33	1.40	1.49	1.55	1.59
PL PAYGO	3.37	2.34	1.89	1.50	1.45	1.41	1.23	0.99	0.68	0.40	0.27
DB	3.37	2.33	1.91	1.66	1.43	1.26	1.11	1.12	1.09	1.11	1.09
DB+2 401k	3.37	2.33	1.91	1.66	1.46	1.34	1.34	1.60	1.75	1.76	1.75
DB+2 BOND	3.37	2.33	1.91	1.66	1.44	1.29	1.21	1.30	1.33	1.34	1.33
DB+2 HIGH	3.37	2.33	1.91	1.66	1.47	1.36	1.42	1.81	2.06	2.07	2.06
ISA-NO IA	3.37	2.33	1.91	1.45	0.99	0.58	0.37	0.32	0.28	0.28	0.27
ISA+2 401K	3.37	2.33	1.91	1.45	1.19	0.94	1.03	1.43	1.67	1.68	1.67
ISA+2 BOND	3.37	2.33	1.91	1.45	1.17	0.89	0.88	1.08	1.17	1.17	1.16
ISA+2 HIGH	3.37	2.33	1.91	1.45	1.19	0.97	1.13	1.68	2.05	2.05	2.04
ISA+4 401K	3.37	2.33	1.91	1.45	1.22	1.04	1.28	1.89	2.25	2.25	2.24
ISA+4 BOND	3.37	2.33	1.91	1.45	1.19	0.94	1.00	1.28	1.41	1.41	1.40
ISA+4 HIGH	3.37	2.33	1.91	1.45	1.24	1.09	1.46	2.30	2.84	2.83	2.83

Single Female (Maximum Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.28	2.00	1.47	1.02	0.91	0.77	0.61	0.69	0.78	0.85	0.90
PL PAYGO	3.28	2.00	1.47	1.02	0.91	0.77	0.55	0.29	-0.01	-0.27	-0.39
DB	3.27	2.00	1.49	1.13	0.80	0.56	0.39	0.41	0.38	0.40	0.38
DB+2 401k	3.27	2.00	1.49	1.13	0.85	0.68	0.68	1.00	1.20	1.21	1.20
DB+2 BOND	3.27	2.00	1.49	1.13	0.83	0.63	0.54	0.67	0.72	0.74	0.72
DB+2 HIGH	3.27	2.00	1.49	1.13	0.86	0.71	0.78	1.24	1.55	1.57	1.56
ISA-NO IA	3.27	2.00	1.49	0.89	0.30	-0.19	-0.43	-0.47	-0.52	-0.50	-0.51
ISA+2 401K	3.27	2.00	1.49	0.89	0.55	0.24	0.34	0.81	1.10	1.11	1.10
ISA+2 BOND	3.27	2.00	1.49	0.89	0.53	0.17	0.16	0.40	0.51	0.52	0.51
ISA+2 HIGH	3.27	2.00	1.49	0.89	0.57	0.27	0.45	1.09	1.52	1.54	1.53
ISA+4 401K	3.27	2.00	1.49	0.89	0.61	0.37	0.66	1.38	1.81	1.81	1.81
ISA+4 BOND	3.27	2.00	1.49	0.89	0.56	0.25	0.33	0.69	0.86	0.87	0.86
ISA+4 HIGH	3.27	2.00	1.49	0.89	0.63	0.44	0.86	1.85	2.46	2.46	2.45

Based on the intermediate assumptions of the 1997 Trustees Report

**TABLE IRR3: Internal Rates of Return (in percent)
for Various NCRP Proposals**

One-Earner Couple (Low Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	8.46	6.57	5.86	5.37	5.32	5.20	5.03	5.02	5.04	5.14	5.15
PL PAYGO	8.46	6.57	5.86	5.37	5.32	5.20	5.36	5.10	4.75	4.39	4.09
DB	8.46	6.57	5.87	5.66	5.64	5.52	5.40	5.24	5.17	5.19	5.14
DB+2 401k	8.46	6.57	5.87	5.66	5.62	5.50	5.36	5.18	5.11	5.12	5.08
DB+2 BOND	8.46	6.57	5.87	5.66	5.62	5.49	5.31	5.06	4.92	4.94	4.89
DB+2 HIGH	8.46	6.57	5.87	5.66	5.63	5.51	5.39	5.28	5.25	5.26	5.22
ISA-NO IA	8.46	6.57	5.87	5.59	5.62	5.51	5.39	5.21	5.09	5.11	5.06
ISA+2 401K	8.46	6.57	5.87	5.59	5.67	5.61	5.59	5.58	5.59	5.58	5.54
ISA+2 BOND	8.46	6.57	5.87	5.59	5.67	5.60	5.54	5.45	5.39	5.39	5.35
ISA+2 HIGH	8.46	6.57	5.87	5.59	5.68	5.62	5.62	5.68	5.74	5.73	5.70
ISA+4 401K	8.46	6.57	5.87	5.59	5.66	5.59	5.54	5.51	5.50	5.49	5.45
ISA+4 BOND	8.46	6.57	5.87	5.59	5.65	5.56	5.44	5.26	5.14	5.13	5.09
ISA+4 HIGH	8.46	6.57	5.87	5.59	5.67	5.61	5.61	5.69	5.79	5.76	5.73

One-Earner Couple (Average Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	6.67	5.29	4.68	4.21	4.15	4.07	3.91	3.92	3.96	4.06	4.08
PL PAYGO	6.67	5.29	4.68	4.21	4.15	4.07	4.16	3.91	3.57	3.25	3.01
DB	6.67	5.29	4.70	4.58	4.37	4.22	4.10	3.97	3.91	3.94	3.90
DB+2 401k	6.67	5.29	4.70	4.58	4.37	4.22	4.12	4.05	4.05	4.06	4.02
DB+2 BOND	6.67	5.29	4.70	4.58	4.36	4.20	4.05	3.88	3.80	3.81	3.78
DB+2 HIGH	6.67	5.29	4.70	4.58	4.37	4.23	4.16	4.18	4.24	4.24	4.21
ISA-NO IA	6.67	5.29	4.70	4.43	4.00	3.64	3.41	3.19	3.05	3.05	3.01
ISA+2 401K	6.67	5.29	4.70	4.43	4.10	3.82	3.77	3.83	3.88	3.85	3.82
ISA+2 BOND	6.67	5.29	4.70	4.43	4.09	3.79	3.68	3.62	3.56	3.54	3.51
ISA+2 HIGH	6.67	5.29	4.70	4.43	4.10	3.83	3.82	3.99	4.12	4.09	4.06
ISA+4 401K	6.67	5.29	4.70	4.43	4.10	3.83	3.81	3.95	4.05	4.02	3.99
ISA+4 BOND	6.67	5.29	4.70	4.43	4.08	3.77	3.65	3.56	3.49	3.47	3.45
ISA+4 HIGH	6.67	5.29	4.70	4.43	4.11	3.86	3.92	4.22	4.45	4.42	4.39

One-Earner Couple High Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	6.25	4.87	4.20	3.62	3.45	3.31	3.16	3.19	3.24	3.34	3.37
PL PAYGO	6.25	4.87	4.20	3.62	3.45	3.31	3.16	2.88	2.55	2.24	2.04
DB	6.25	4.87	4.22	3.78	3.45	3.26	3.14	3.04	2.99	3.01	2.98
DB+2 401k	6.25	4.87	4.22	3.78	3.46	3.28	3.22	3.24	3.29	3.30	3.27
DB+2 BOND	6.25	4.87	4.22	3.78	3.45	3.25	3.13	3.03	2.98	3.00	2.97
DB+2 HIGH	6.25	4.87	4.22	3.78	3.46	3.29	3.28	3.39	3.52	3.52	3.50
ISA-NO IA	6.25	4.87	4.22	3.59	3.00	2.55	2.33	2.13	2.01	2.01	1.99
ISA+2 401K	6.25	4.87	4.22	3.59	3.13	2.79	2.79	2.95	3.05	3.03	3.01
ISA+2 BOND	6.25	4.87	4.22	3.59	3.12	2.76	2.68	2.68	2.66	2.65	2.62
ISA+2 HIGH	6.25	4.87	4.22	3.59	3.14	2.81	2.86	3.14	3.34	3.32	3.30
ISA+4 401K	6.25	4.87	4.22	3.59	3.14	2.83	2.90	3.18	3.37	3.34	3.32
ISA+4 BOND	6.25	4.87	4.22	3.59	3.12	2.76	2.69	2.71	2.70	2.69	2.67
ISA+4 HIGH	6.25	4.87	4.22	3.59	3.15	2.87	3.03	3.51	3.85	3.82	3.80

One-Earner Couple (Maximum Earnings):

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	6.18	4.59	3.80	3.11	2.84	2.57	2.31	2.35	2.42	2.53	2.56
PL PAYGO	6.18	4.59	3.80	3.11	2.84	2.57	2.33	2.05	1.72	1.44	1.26
DB	6.18	4.59	3.81	3.23	2.77	2.48	2.32	2.22	2.19	2.21	2.18
DB+2 401k	6.18	4.59	3.81	3.23	2.78	2.52	2.45	2.54	2.64	2.65	2.63
DB+2 BOND	6.18	4.59	3.81	3.23	2.77	2.48	2.35	2.29	2.29	2.30	2.28
DB+2 HIGH	6.18	4.59	3.81	3.23	2.79	2.54	2.52	2.72	2.92	2.92	2.90
ISA-NO IA	6.18	4.59	3.81	3.00	2.24	1.67	1.41	1.23	1.12	1.13	1.11
ISA+2 401K	6.18	4.59	3.81	3.00	2.42	1.98	1.98	2.22	2.38	2.36	2.34
ISA+2 BOND	6.18	4.59	3.81	3.00	2.41	1.93	1.85	1.90	1.91	1.91	1.89
ISA+2 HIGH	6.18	4.59	3.81	3.00	2.43	2.01	2.07	2.44	2.72	2.70	2.68
ISA+4 401K	6.18	4.59	3.81	3.00	2.44	2.05	2.16	2.57	2.84	2.81	2.80
ISA+4 BOND	6.18	4.59	3.81	3.00	2.41	1.96	1.91	2.01	2.06	2.05	2.03
ISA+4 HIGH	6.18	4.59	3.81	3.00	2.46	2.10	2.32	2.95	3.38	3.35	3.34

Based on the intermediate assumptions of the 1997 Trustees Report

**TABLE IRR4: Internal Rates of Return (in percent)
for Various NCRP Proposals**

Two-Earner Couple: Husband (Low), Wife (Low) :

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	5.06	3.78	3.31	2.94	2.95	2.93	2.83	2.89	2.96	3.04	3.08
PL PAYGO	5.06	3.78	3.31	2.94	2.95	2.93	2.78	2.66	2.44	2.17	2.02
DB	5.06	3.78	3.33	3.29	3.31	3.30	3.26	3.23	3.25	3.24	3.26
DB+2 401k	5.06	3.78	3.33	3.29	3.31	3.32	3.33	3.42	3.52	3.51	3.53
DB+2 BOND	5.06	3.78	3.33	3.29	3.30	3.29	3.24	3.20	3.22	3.21	3.23
DB+2 HIGH	5.06	3.78	3.33	3.29	3.32	3.34	3.39	3.57	3.75	3.74	3.76
ISA-NO IA	5.06	3.78	3.33	3.20	3.29	3.28	3.25	3.21	3.22	3.21	3.23
ISA+2 401K	5.06	3.78	3.33	3.20	3.42	3.49	3.63	3.87	4.05	4.03	4.05
ISA+2 BOND	5.06	3.78	3.33	3.20	3.41	3.46	3.54	3.65	3.74	3.72	3.74
ISA+2 HIGH	5.06	3.78	3.33	3.20	3.42	3.51	3.69	4.02	4.29	4.27	4.29
ISA+4 401K	5.06	3.78	3.33	3.20	3.42	3.51	3.69	3.98	4.20	4.18	4.19
ISA+4 BOND	5.06	3.78	3.33	3.20	3.40	3.45	3.51	3.59	3.65	3.63	3.65
ISA+4 HIGH	5.06	3.78	3.33	3.20	3.44	3.55	3.80	4.26	4.60	4.58	4.59

Two-Earner Couple: Husband (Average), Wife (Low) :

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	4.67	3.56	3.12	2.73	2.72	2.69	2.55	2.63	2.70	2.80	2.83
PL PAYGO	4.67	3.56	3.12	2.73	2.72	2.69	2.50	2.40	2.18	1.95	1.80
DB	4.67	3.56	3.14	3.14	3.04	2.96	2.85	2.82	2.82	2.83	2.83
DB+2 401k	4.67	3.56	3.14	3.14	3.05	2.99	2.95	3.06	3.15	3.16	3.17
DB+2 BOND	4.67	3.56	3.14	3.14	3.04	2.96	2.85	2.83	2.83	2.84	2.84
DB+2 HIGH	4.67	3.56	3.14	3.14	3.06	3.01	3.01	3.22	3.40	3.41	3.41
ISA-NO IA	4.67	3.56	3.14	2.99	2.77	2.53	2.35	2.26	2.20	2.20	2.21
ISA+2 401K	4.67	3.56	3.14	2.99	2.90	2.77	2.81	3.05	3.21	3.20	3.21
ISA+2 BOND	4.67	3.56	3.14	2.99	2.89	2.74	2.70	2.79	2.83	2.82	2.83
ISA+2 HIGH	4.67	3.56	3.14	2.99	2.91	2.80	2.88	3.24	3.50	3.49	3.49
ISA+4 401K	4.67	3.56	3.14	2.99	2.91	2.81	2.92	3.27	3.49	3.48	3.49
ISA+4 BOND	4.67	3.56	3.14	2.99	2.89	2.74	2.71	2.80	2.84	2.84	2.84
ISA+4 HIGH	4.67	3.56	3.14	2.99	2.93	2.85	3.05	3.59	3.96	3.95	3.96

Two-Earner Couple: Husband (Average), Wife (Average) :

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.43	2.61	2.24	1.90	1.91	1.89	1.80	1.88	1.96	2.05	2.09
PL PAYGO	3.43	2.61	2.24	1.90	1.91	1.89	1.73	1.61	1.39	1.16	1.04
DB	3.43	2.60	2.26	2.33	2.24	2.22	2.18	2.16	2.19	2.18	2.21
DB+2 401k	3.43	2.60	2.26	2.33	2.26	2.27	2.32	2.49	2.64	2.64	2.66
DB+2 BOND	3.43	2.60	2.26	2.33	2.25	2.23	2.21	2.23	2.28	2.27	2.29
DB+2 HIGH	3.43	2.60	2.26	2.33	2.27	2.29	2.40	2.67	2.92	2.92	2.93
ISA-NO IA	3.43	2.60	2.26	2.16	1.88	1.66	1.54	1.45	1.43	1.41	1.44
ISA+2 401K	3.43	2.60	2.26	2.16	2.05	1.96	2.10	2.39	2.60	2.58	2.60
ISA+2 BOND	3.43	2.60	2.26	2.16	2.04	1.92	1.97	2.08	2.16	2.14	2.16
ISA+2 HIGH	3.43	2.60	2.26	2.16	2.06	1.99	2.18	2.60	2.92	2.91	2.92
ISA+4 401K	3.43	2.60	2.26	2.16	2.07	2.02	2.26	2.70	3.00	2.98	3.00
ISA+4 BOND	3.43	2.60	2.26	2.16	2.04	1.94	2.01	2.16	2.26	2.24	2.26
ISA+4 HIGH	3.43	2.60	2.26	2.16	2.09	2.07	2.41	3.07	3.52	3.51	3.52

Two-Earner Couple: Husband (High), Wife (Average) :

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.52	2.64	2.24	1.85	1.81	1.77	1.64	1.74	1.81	1.92	1.96
PL PAYGO	3.52	2.64	2.24	1.85	1.81	1.77	1.58	1.47	1.25	1.04	0.92
DB	3.52	2.64	2.26	2.10	1.97	1.89	1.79	1.78	1.80	1.80	1.83
DB+2 401k	3.52	2.64	2.26	2.10	1.99	1.95	1.97	2.16	2.33	2.33	2.35
DB+2 BOND	3.52	2.64	2.26	2.10	1.98	1.91	1.84	1.89	1.94	1.94	1.96
DB+2 HIGH	3.52	2.64	2.26	2.10	2.00	1.97	2.04	2.36	2.62	2.63	2.64
ISA-NO IA	3.52	2.64	2.26	1.91	1.56	1.26	1.08	0.99	0.97	0.96	0.99
ISA+2 401K	3.52	2.64	2.26	1.91	1.74	1.58	1.68	2.01	2.24	2.23	2.25
ISA+2 BOND	3.52	2.64	2.26	1.91	1.73	1.54	1.54	1.68	1.76	1.76	1.78
ISA+2 HIGH	3.52	2.64	2.26	1.91	1.75	1.61	1.78	2.24	2.59	2.58	2.60
ISA+4 401K	3.52	2.64	2.26	1.91	1.77	1.65	1.88	2.38	2.71	2.70	2.72
ISA+4 BOND	3.52	2.64	2.26	1.91	1.73	1.56	1.61	1.80	1.92	1.91	1.93
ISA+4 HIGH	3.52	2.64	2.26	1.91	1.78	1.71	2.05	2.78	3.27	3.26	3.27

Two-Earner Couple: Husband (High), Wife (High) :

	1920	1930	1937	1943	1949	1955	1964	1973	1985	1997	2004
PL	3.10	2.19	1.77	1.35	1.29	1.24	1.14	1.23	1.32	1.41	1.46
PL PAYGO	3.10	2.19	1.77	1.35	1.29	1.24	1.07	0.94	0.72	0.51	0.40
DB	3.10	2.19	1.79	1.58	1.43	1.39	1.35	1.34	1.38	1.38	1.41
DB+2 401k	3.10	2.19	1.79	1.58	1.46	1.47	1.57	1.80	2.00	2.00	2.02
DB+2 BOND	3.10	2.19	1.79	1.58	1.44	1.42	1.43	1.50	1.58	1.58	1.60
DB+2 HIGH	3.10	2.19	1.79	1.58	1.47	1.49	1.65	2.01	2.32	2.32	2.34
ISA-NO IA	3.10	2.19	1.79	1.38	1.00	0.73	0.61	0.52	0.51	0.51	0.54
ISA+2 401K	3.10	2.19	1.79	1.38	1.21	1.09	1.27	1.63	1.90	1.89	1.91
ISA+2 BOND	3.10	2.19	1.79	1.38	1.19	1.04	1.12	1.27	1.39	1.38	1.40
ISA+2 HIGH	3.10	2.19	1.79	1.38	1.22	1.12	1.37	1.89	2.28	2.27	2.29
ISA+4 401K	3.10	2.19	1.79	1.38	1.24	1.18	1.50	2.08	2.45	2.44	2.46
ISA+4 BOND	3.10	2.19	1.79	1.38	1.21	1.08	1.22	1.45	1.59	1.59	1.61
ISA+4 HIGH	3.10	2.19	1.79	1.38	1.27	1.24	1.69	2.50	3.04	3.04	3.05

Based on the intermediate assumptions of the 1997 Trustees Report