

Work and Retirement

by Liqun Liu and Andrew J. Rettenmaier

“Funding boomers’ retirement benefits will put a severe strain on workers.”

In 2006, the first of 77 million baby boomers reached age 60. In two years they will be eligible for early retirement benefits from Social Security. In five years they will be eligible for Medicare. As they retire, the boomers will stop paying taxes to fund America’s elderly entitlement programs and begin collecting benefits instead. Over the next three decades, the number of retirees will double. However, due to declining fertility rates, the number of workers contributing to the system will fall from three for each retiree receiving benefits to two for each retiree. This will place a severe strain on working Americans to pay promised benefits to the elderly.

One way to soften the blow of the boomers’ retirement is to encourage them to stay in the workforce longer, or at least not encourage them to leave. Increasing work by boomers would also increase income tax revenues. In addition, Medicare’s finances would improve because older workers would receive some of their health coverage from employers rather than the government. It also would keep America’s most experienced employees in the workplace, boosting economic output.

However, features of the current Social Security program actually encourage older Americans to retire earlier. For example:

- Social Security withholds a portion of some people's benefits because they earn wages above a certain amount before they reach the normal retirement age (the earnings test).
- Benefits for those who continue working past the early retirement age do not properly account for the Social Security payroll taxes paid during the additional working years.
- Americans are spending a longer portion of their lives in retirement, but the normal and early retirement ages have not been fully adjusted to reflect rising life expectancies.

This paper examines several ways to increase the labor supply of older Americans and update Social Security to keep pace with changing life

“Social Security gives seniors incentives to retire early.”

expectancies and labor market conditions. The reforms would give seniors greater freedom and flexibility to time their retirement, provide employers with incentives to retain older workers and increase incentives for older Americans to stay in the workforce longer.

The reforms will not solve Social Security’s long-term financing woes. However, they will reduce the incentives under the current system for seniors to stop working once they are eligible to begin claiming benefits. Fundamental reforms that address system solvency could build on these changes. The three broad measures considered are:

- 1) Eliminating the earnings test for early retirees (age 62 to the normal retirement age);
- 2) Reducing payroll taxes once a worker is eligible to receive Social Security benefits; and
- 3) Accounting for increases in life expectancy by indexing the normal and early retirement ages, and updating the Social Security benefit formula.

Labor Market Behavior of Older Americans

The percentage of the population over age 65 in the labor market has generally declined over the past century. According to U.S. Census Bureau data, in 1890, 68 percent of men age 65 and above worked; by 1930 the rate had dropped to 54 percent. The number of elderly Americans working continued to decline after Social Security began providing retirement benefits in 1935 to workers at age 65. Much of the drop occurred during the 1970s and 1980s:

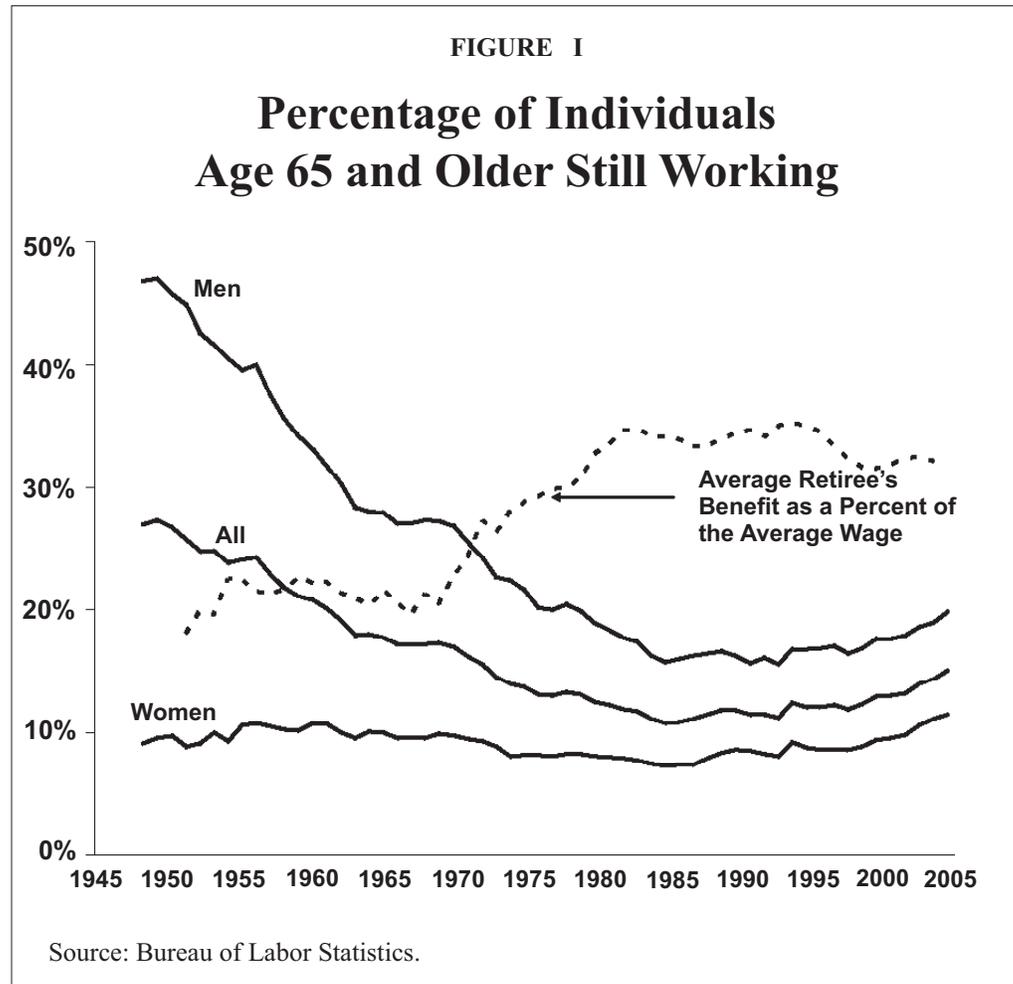
- In 1955, about 40 percent of men 65 and older were working, compared to about 20 percent of men today.¹
- By contrast, the portion of older women who work has been relatively constant since the mid-20th century; it was 11 percent in 1955 and is slightly more than 11.5 percent today.

Researchers have identified several reasons for the decline in work among the over-65 population. Some point to fewer job opportunities for older Americans: as real wages fell for older, less-skilled workers, their inclination to keep working declined.² Others suggest older Americans chose to work less as the real value of pensions and Social Security benefits grew, making the rewards for retirement more lucrative.³

Figure I compares the average Social Security benefit, as a percentage of workers’ average wages, to the percentage of individuals age 65 and above who are working. As the figure shows:

- During the 1950s and 1960s, average Social Security benefits hovered around 20 percent of average wages.

“As the value of benefits rises, fewer seniors work.”



- However, from the 1970s to the early 1980s, average benefits rose significantly relative to average wages, reaching 35 percent of the average wage in 1983; subsequently they remained close to that high-water mark, but declined somewhat in recent years.
- The percentage of men age 65 and above who work fell as more of their wages were replaced by Social Security retirement benefits.

The rising value of benefits is not the *only* explanation for the decline in work by older Americans, but it is surely *one* of the causes.⁴ Other variables were changing as well. For example, the proportion of retirees who receive Social Security benefits also increased over this time period. In the 1940s, less than 20 percent of individuals 65 and older received Social Security benefits, but by the 1970s almost all seniors received a Social Security check.

Eliminating the Earnings Test for Early Retirees

Most workers begin claiming Social Security benefits before they reach normal retirement age. In 2004 (the most recent year for which detailed data is available) two-thirds of men who started claiming benefits had not

reached normal retirement age; and almost half (49 percent) were 62-year-olds. Of the women who began collecting benefits in 2004, more than 70 percent had not reached normal retirement age.⁵

An individual who receives Social Security before reaching normal retirement age and continues to work is subject to an earnings test. That is, some Social Security benefits are withheld if the “retiree” earns more than a certain amount of wage income. The amount withheld depends on two thresholds, which change each year. The first threshold applies to all early retirees in 2006. Social Security withholds one dollar of an early retiree’s benefits for every two dollars earned above \$12,480.⁶ The second threshold applies to early retirees during the calendar year in which they reach their normal retirement age. In 2006, Social Security withholds one dollar of benefits for every three dollars earned above \$33,240.⁷

It is important to note that the benefits withheld by the earnings test are gradually restored over time after the retiree reaches the normal retirement age. The Social Security benefit is recalculated and the individual receives a higher payment for the rest of his or her life. The adjustments used to restore benefits account for the time value of money (the fact that a dollar of benefits today is more valuable than a dollar of future benefits) and for the fewer remaining expected years of life as one delays receiving benefits. The implicit adjustment for the time value of money is a discount rate close to the real interest rate the government pays to borrow money — roughly 2 percent to 3 percent per year. Also, the implicit mortality adjustment is close to the life expectancy of the average individual. On the average, the benefits a retiree will receive equal the amount he or she would have gotten if the earnings test had not been applied — plus interest and an adjustment that takes into account the likelihood of dying at any age from 62 to 70. [See the sidebar: “The Earnings Test at Work.”]

“Seniors who receive early Social Security retirement benefits but keep working are subject to the earnings test.”

However, many retirees may not view these adjustments as an even trade for three reasons. First, those who begin claiming benefits at early ages are more likely to discount the value of a dollar received in the future at a rate much higher than the government’s borrowing rate. Not only can individuals not borrow at the government’s borrowing rate, they often borrow at rates much higher. If the rate at which benefits are “restored” is less than the retiree’s personal discount rate, the earnings test will be perceived as a net tax.⁸ Second, individuals who retire early are likely to be less healthy than average and, as a result, their life expectancy may be lower than the average for all retirees. Finally, risk-averse individuals — those who value a certain amount of money in their pocket today over the promise of an uncertain larger payday in the future — are more likely to claim benefits early.⁹ For these reasons, early retirees are likely to perceive they are worse off because their benefits are withheld. Thus it is not surprising that a majority of retirees choose to begin receiving benefits early and many of them stop working.

Researchers have often viewed the withholding of benefits due to the earnings test as a tax, but it is not a pure tax since the benefits are later restored. However, depending on an individual's own subjective discount rate, mortality expectations and risk preferences, claiming benefits early may be a natural response to the scheduled adjustments for early retirement.

Effect on Labor Market Participation. The decision to retire is often considered a decision to both stop working and to begin claiming Social Security benefits; but, as the previous discussion showed, these are two separate choices. To what extent does the earnings test affect an individual's decision to stop working or reduce hours of work? Researchers have reached different conclusions.

According to Jonathan Gruber of the Massachusetts Institute of Technology and Peter Orszag of the Brookings Institution, the earnings test has a small labor supply effect.¹⁰ However, economists Alan L. Gustman and Thomas L. Steinmeier estimate that the earnings test reduces the share of

"The earnings test withholds \$1 of benefits for each \$2 earned above a certain threshold."

The Earnings Test at Work

As an example of how the earnings test works, take a 62-year-old worker who applies for Social Security benefits and is entitled to receive \$12,000 a year. Suppose the worker decides to keep working and earns at least \$36,480 in 2006. During the year, his entire Social Security benefit will be withheld because he is over the earnings threshold.¹ When he reaches his normal retirement age of 66, his Social Security benefit will be recomputed to restore the withheld amount to include the delayed retirement credits and he will begin receiving \$12,800 a year in benefits.² Further, if he earns so much that all his benefits are withheld every year up to the normal retirement age (four years from age 62 through 65), upon reaching age 66 he will begin receiving \$16,000 annually.³

The earnings test can also be expressed in terms of its effect on a worker's marginal tax rate, or the taxes paid on an additional dollar of income. Depending on how much the worker earns, the combination of ordinary income, payroll and benefits taxes can easily approach 35 percent, resulting in take-home pay of about 65 cents on the dollar. If the delayed retirement credits return less than the worker's personal discount rate, which includes all of the factors considered above, the earnings is perceived as a tax of up to 50 percent, since he or she loses 50 cents in current benefits for each dollar earned. Combining all these factors could produce an effective marginal tax rate as high as 85 percent.⁴

¹ \$36,480 in earnings is \$24,000 above the \$12,480 threshold: $(\$36,480 - \$12,480)/2 = \$12,000$.

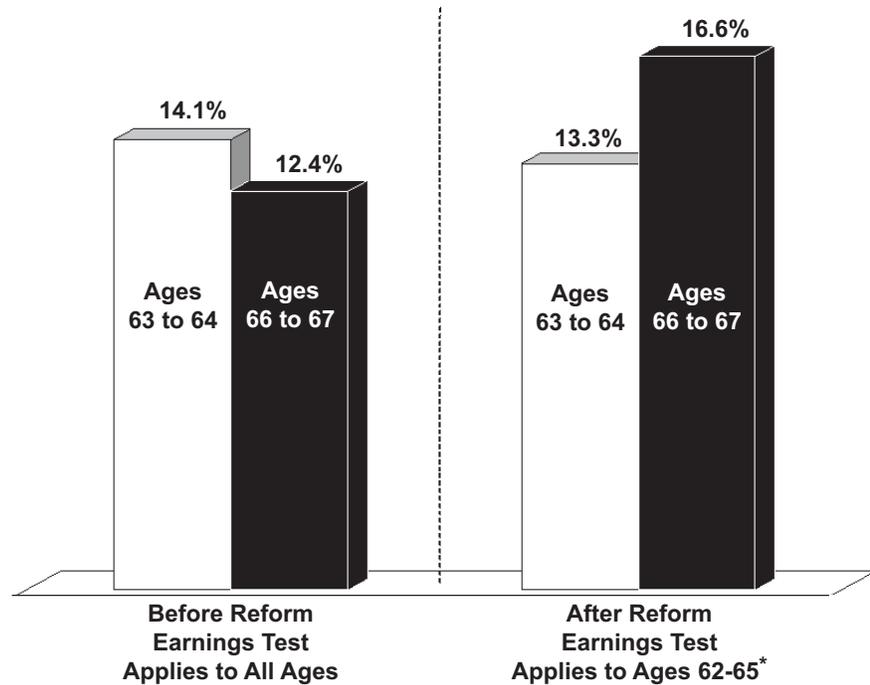
² For simplicity, this calculation ignores the annual cost of living adjustment to Social Security benefits.

³ This individual's benefits may also be higher if any years of earnings between 62 and the normal retirement years are among his top 35 earnings years. Again, for comparability at age 62, cost of living adjustments are not included.

⁴ This is the extreme case in which restored future benefits are highly discounted. However, in discussing the labor supply effects for the earnings test in conjunction with the delayed retirement credits, Leora Freidberg suggests that "the credits do not appear to affect behavior and may not be well understood." See Leora Friedberg, "The Labor Supply Effects of the Social Security Earnings Test," *Review of Economics and Statistics*, Vol. 82, 2000. In contrast, Alan L. Gustman and Thomas L. Steinmeier, "The Social Security Retirement Earnings Test, Retirement and Benefit Claiming;" and Jonathan Gruber and Peter Orszag, "Does the Social Security Earnings Test Affect Labor Supply and Benefits Receipt?" point out that the benefits lost to the earnings test are returned to the worker through the delayed retirement credits.

FIGURE II

Percentage of Men Earning Above the Earnings Threshold



“The earnings test reduces the percentage of men earning more than the threshold amount.”

* The Senior Citizens Freedom to Work Act eliminated the earnings tests for workers at or above the normal retirement age in 2000. An imputed exempt amount for 2000-2003 is calculated by increasing the higher exempt amount of \$17,000 in 2000 at the same rate as the growth in the lower exempt amount.

Source: “Benefits and Earnings Public-Use File, 2004,” Social Security Administration.

married men between 62 and the normal retirement age who work full-time by 4 percentage points.¹¹

The earnings test originally applied to all beneficiaries who received wage income, regardless of age. However, beginning in 2000 the test was abolished for all retirees who have reached their normal retirement age.¹² This change allows some conclusions to be drawn about the effect of the earnings test on the work habits of elderly Americans. Since the earnings test had previously applied to beneficiaries ages 65 to 69 and still applies to those ages 62 to 65, comparing labor market earnings before and after the 2000 legislation allows one to infer how workers and beneficiaries responded to the change.¹³

Figure II shows the percentage of retirees in two age groups who had earnings above the earnings test threshold in the four years before and after the 2000 reform.¹⁴ The first group consists of retirees who were ages 63 and 64 during the four years before or after the legislation. The earnings test applied to these workers in both periods; thus they can serve as a “control” group. The other group consists of retirees who were 66 and 67 in the four years before or after the reform; they faced the earnings test before, but not after.

Among people unaffected by the policy change (younger retirees), the percentage with earnings above the threshold fell, consistent with the trend toward less work by this age group. However, among people affected by the policy change (older retirees) the percentage with earnings above the threshold rose. This difference in behavior strongly suggests there has been a labor supply response to the repeal of the earnings test.

Another comparison confirms the previous result, focusing on retirees with above-average earnings. As Figure III shows, the percentage of older retirees with above-average earnings rose after the earnings test was eliminated for them; but the percentage of younger retirees (for whom the earnings test continues to apply) with above-average earnings actually fell.

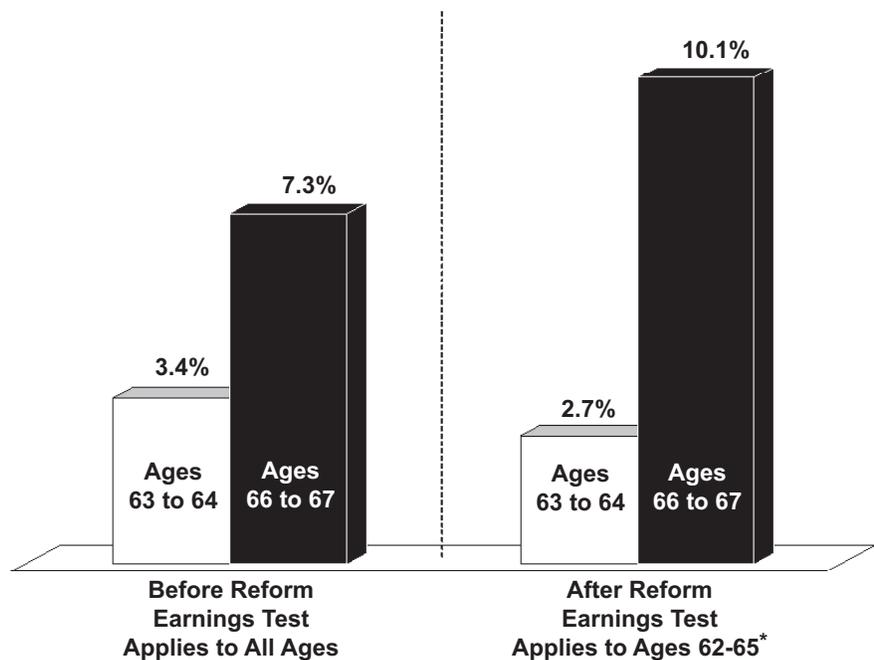
These results imply that eliminating the earnings test for all workers will increase earnings and work by early benefit claimants.¹⁵

Reducing Payroll Tax Payments for Social Security Beneficiaries

High tax rates on labor income have reduced the overall labor supply below what is economically optimal. In addition to Social Security payroll

FIGURE III

Percentage of Men Earning Above the Average Wage



“The earnings test reduces the percentage of men earning more than the average wage.”

* The Senior Citizens Freedom to Work Act eliminated the earnings tests for workers at or above the normal retirement age.

Source: “Benefits and Earnings Public-Use File, 2004,” Social Security Administration.

taxes, direct and indirect levies on wages raise the combined marginal tax rate to more than 25 percent for the average worker. Since seniors are more responsive than younger workers to changes in the marginal tax rates on labor income, reducing their Social Security payroll tax rates would generate above-average increases in the hours they work.

Under current law, older workers will make substantial payroll tax payments in 2006:

- The average 64-year-old worker is expected to earn \$26,662 and pay an additional \$2,826 in Old Age and Survivors Insurance (OASI) taxes.
- Higher-earning individuals will make an estimated \$42,643 and pay an additional \$4,520 in taxes.
- For individuals reaching the early retirement age this year, cumulative OASI taxes between 62 and 64 years will amount to over \$9,000 for average earners and reach almost \$15,000 for high earners.

When workers start claiming benefits, the Social Security taxes they pay on wages between ages 62 and the normal retirement age do not generate any additional Social Security benefits. To rectify this situation, their future benefits could be increased to account for the additional taxes they pay. But a simpler approach would be to eliminate or greatly reduce their payroll taxes. Estimates from one recent study imply that a 10.6 percent increase in wages from eliminating the OASI tax would increase work by older men by 2.39 percent to 3.35 percent.¹⁶

Combining a reduction in payroll taxes with elimination of the earnings test would increase the labor supply of older Americans. If seniors expect to spend longer periods in the labor force, they could be induced to earn higher wages in the years prior to retirement and, as a result, payroll tax collections would be larger. Further, income tax receipts from individuals who would have otherwise left the labor force or reduced their hours of work will rise, somewhat offsetting lower payroll tax revenues.¹⁷

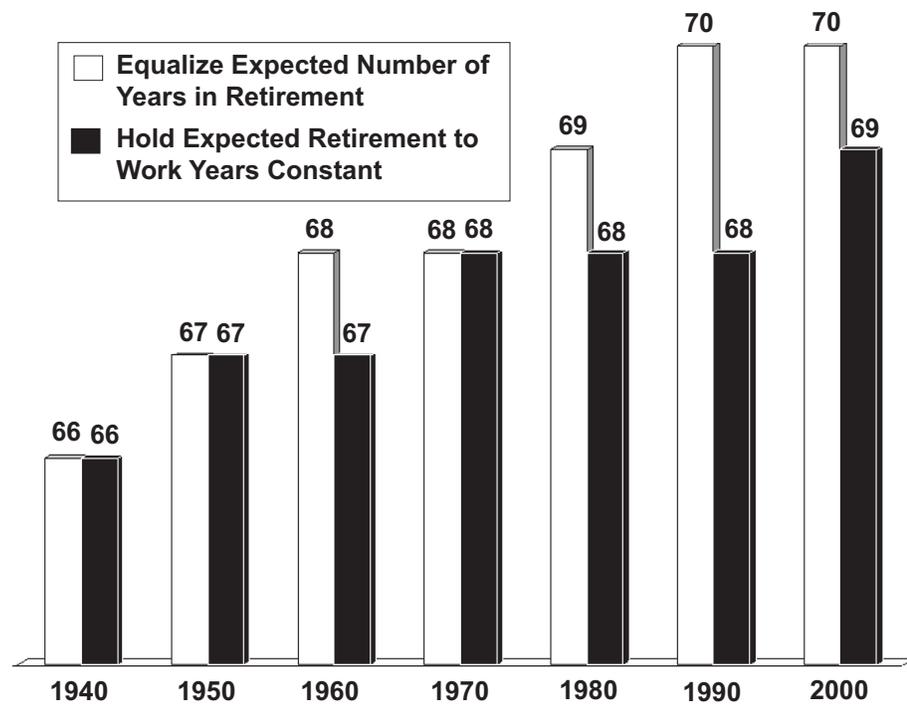
Indexing Normal and Early Retirement Ages to Account for Increasing Longevity

The normal retirement age is already rising for workers born after 1938 as a result of Social Security reforms enacted in 1983. It began rising from age 65 in 2003 by two months every year and will continue until 2027 when it settles at 67 for workers born in 1960 and later. However, while the retirement age remains at 67, life expectancies will continue rising. In 1940, life expectancy for the average person reaching age 65 was 13 years. It is 18

“Reducing payroll taxes and eliminating the earnings test would increase the percentage of seniors who work.”

FIGURE IV

Two Ways to Index the Normal Retirement Age



Source: Authors' estimates based on cohort life tables in "Life Tables for the United States Social Security Area 1900-2100," Social Security Administration, Office of the Chief Actuary, August 2002.

"The normal retirement age could be indexed to account for increasing longevity."

years today and is expected to continue rising. Additionally, the chance that a young worker will live to retirement age rose from 73 percent in 1940 to 85 percent today.

The normal and early retirement ages could be indexed to reflect these changes.

Indexing the Normal Retirement Age. Figure IV identifies two ways of indexing the normal retirement age to longevity:

- Choose a retirement age that equalizes the number of years future retirees are expected to receive benefits, or
- Hold constant the ratio of expected retirement years to potential work years for all future new workers.

How each of these changes would work is considered below.

Option One: Equalize the Number of Years Future Retirees Are Expected to Receive Benefits. As a starting point, the average life expectancy after age 66 for individuals born in 1940 is approximately 18 years (or age 84).¹⁸ Life expectancy is about 18 years at age 67 for individuals born in

1950, 18 years at age 68 for individuals born in 1960 and 18 years at age 70 for those born in 1990. To equalize the number of years they receive benefits, the normal retirement age could be increased gradually to age 70 for future retirees born in 1990.

Option Two: Hold Constant the Ratio of Expected Retirement Years to Potential Work Years. Individuals born in 1940 who began working at age 20 could have spent 46 years in the labor force before reaching their normal retirement age of 66. And upon reaching age 66 they can expect to live 18 years, on the average. This means they will spend 38.4 percent as long in retirement, on the average, as they did working. Maintaining this ratio of retirement-to-work years results in a slower rise in the normal retirement age than Option One. For individuals born in 1950, it would increase the normal retirement age by one year (to age 67). The retirement age would remain the same for individuals born in 1960 and then increase for those born in all future years, ultimately resulting in a retirement age of 69 for individuals born in 2000.

Effect on Social Security's Finances. The Social Security program faces a growing projected shortfall in revenues relative to benefits in coming years. The Office of the Chief Actuary of Social Security recently estimated the effects of two ways of indexing the normal retirement age, similar to those illustrated in Figure IV.¹⁹ The first smoothes the progression of the normal retirement age to 67 under current law and increases the normal retirement age for succeeding cohorts of workers by one month for every two birth years until it reaches 68.²⁰ This change would reduce the 75-year financing gap by 27 percent and the deficit in 2079 (the end of the projection period) by 13 percent.

Another change evaluated by the actuaries eliminates the pause in the progression of the normal retirement age to 67. It then continues to increase the normal retirement age by 1 month for every succeeding two-year cohort of workers until the normal retirement age is 70. This change would reduce the 75-year financing gap by 36 percent and the deficit in 2079 by 28 percent.

Indexing the Early Retirement Age. The 1983 Social Security reforms raised the normal retirement age but left the early retirement age at 62 years. Economists Alan L. Gustman and Thomas L. Steinmeier estimated that raising the early retirement age to 64 would result in a 7 percentage point reduction in men 62 to 63 years of age who are retired from full-time work. (This assumes no change in the earnings test for those 64 to the normal retirement age.)²¹

The early retirement age could be indexed to the rising normal retirement age by allowing early receipt of benefits to begin four years prior. If it were indexed to hold constant the years of expected life in retirement to potential work years, the early retirement age would rise to 63 for individuals born in 1950 and ultimately to 65 for individuals born in 2000.

"The 1983 Social Security reforms did not raise the early retirement age of 62 years."

Actuarial Fairness under Current Law

One way to think about actuarial fairness is to see it as a system in which the cost to Social Security of benefit payments is the same regardless of the year in which an average worker retires. Of course, a schedule of benefit adjustments that are actuarially fair for an average worker will be perceived as more or less than fair at different ages depending on a worker's individual preferences and mortality expectations. Individuals with below-average life expectancies can increase their expected lifetime benefits by choosing to claim benefits early. Those with above-average life expectancies can increase their expected lifetime benefits by choosing to delay benefit receipt.

Besides different mortality expectations, individuals have different discount rates. Suppose there is a discount rate that makes expected benefits the same at all retirement ages for the average retiree. Those who are more present-oriented than average (which means they have a higher-than-average discount rate) can increase their expected lifetime benefits by choosing to retire early. Those who are more future-oriented (have lower discount rates) can increase their expected lifetime benefits by choosing a later retirement date. For example, consider workers born in 1950 who are thinking about retiring early at age 62:

- If they retire at age 62, the monthly benefit Social Security will pay is 75 percent of what it would pay at the normal retirement age (age 66).
- This benefit adjustment would be appropriate for workers with a real discount rate between 3 percent and 4 percent.
- But if the workers are present-oriented, meaning they value money in their pocket today more highly than the offer of more money at some point in the future, they may have a much higher discount rate, say, 9 percent.
- As a result, the 75 percent of full retirement benefits Social Security will pay at age 62 is more than they are willing to accept (63 percent), and they have an incentive to claim benefits early.

Putting aside differences in life expectancies and differences in discount rates, a third issue is risk aversion. A choice is fair for a "risk-neutral" individual if the options are equivalent — for example, receiving \$1,000 for certain or having a 50/50 chance of getting \$0 or \$2,000. Yet because most people are risk averse they will not be indifferent between the two choices. Early retirement allows people to cash in on certain benefits today at the expense of uncertain benefits in future years. For example, life expectancy is about 19 years for an average 62-year-old male, but there is a chance he may die next year or may live another 30 years. Given a system that is actuarially fair for risk-neutral individuals, risk-adverse individuals are better off choosing early retirement.

Actuarial Fairness and Individual Discount Rates. Figure V depicts the adjustments scheduled under current law for beneficiaries born between 1943 and 1954, compared with supposed actuarially fair benefit schedules for individuals with different real discount rates of 2 percent and 9 percent.¹

As the figure shows, the scheduled adjustments are quite similar to those based on the interest rate at which the government can borrow money. Across all potential retirement ages the 2 percent

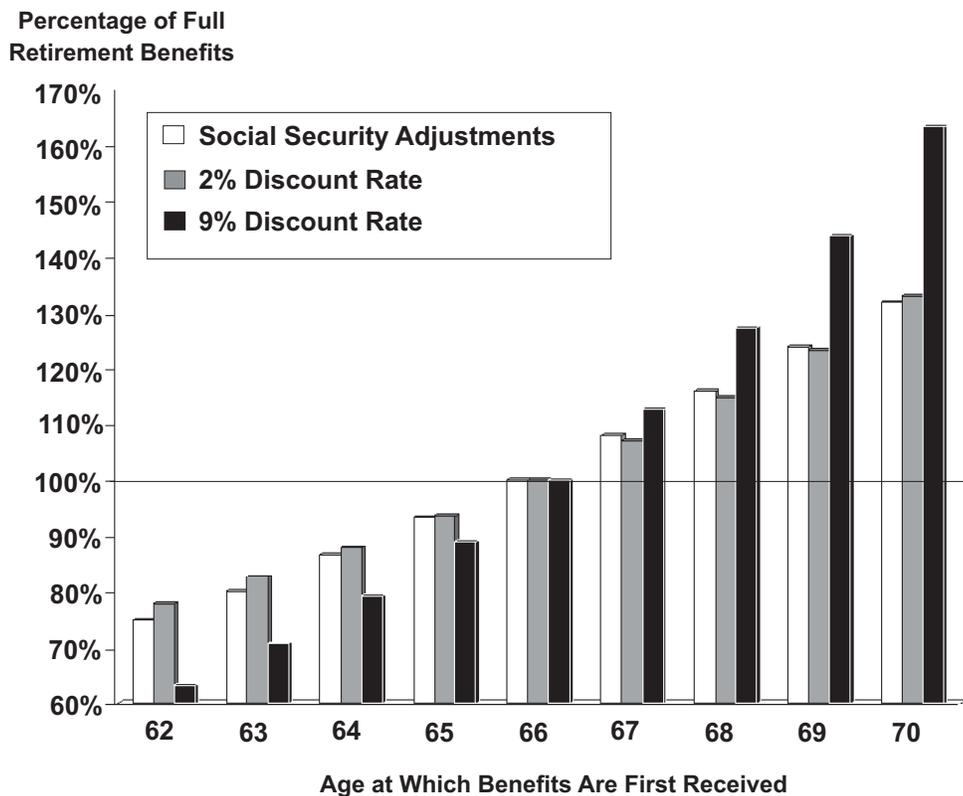
discount rate yields benefit adjustments that are quite close to the scheduled adjustments. A 3 percent discount rate also yields similar results. However, individuals are likely to have higher discount rates than these rates, which are in the same range as the government borrowing rate.

In contrast, at younger ages the scheduled adjustments yield higher expected lifetime benefits than the actuarially fair benefit adjustments that assume a 9 percent discount rate. In other words, at early retirement ages the scheduled adjustments overcompensate individuals with high personal discount rates and induce early retirement. Similarly, beyond the normal retirement age, the scheduled benefit adjustments undercompensate them. For example, as Figure V shows:

- A 56-year-old worker who retires at age 62 will receive a monthly benefit equal to 75 percent of full benefits, an amount considered actuarially fair for a worker with average longevity expectations and whose discount rate is the government borrowing rate.
- However, if this worker is present-oriented — meaning he or she discounts the value of \$1 received in the future compared to \$1 received today at the higher 9 percent rate — he or she would accept a much lower benefit (63 percent of full benefits) at early retirement than the 75 percent Social Security will pay and has the incentive to claim benefits early.

FIGURE V

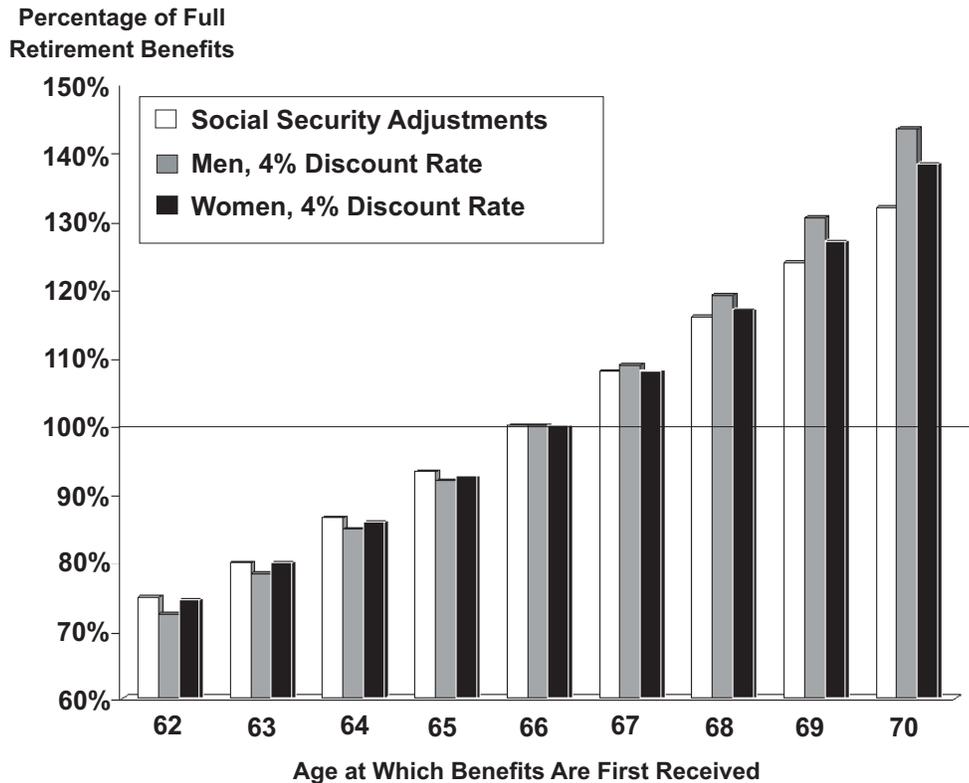
Social Security Benefit Adjustments versus Two Hypothetical Personal Discount Rates (for workers born 1943 to 1954)



Source: 2006 Social Security Trustees Report and authors' calculations.

FIGURE VI

Social Security Benefit Adjustments versus Actuarially Fair Adjustments Based on a 4 Percent Real Discount Rate for Men and Women (individuals born 1943 to 1954)



Source: 2006 Social Security Trustees Report and authors' calculations.

- Workers with high discount rates have little incentive to delay retirement because they will demand a much higher bonus than Social Security will pay. For example they will require 163 percent of full retirement age benefits to induce them to delay retirement to 70, whereas Social Security will pay 132 percent.

Thus, individuals with higher discount rates will more likely begin claiming benefits early. By contrast, individuals with lower discount rates are more likely to delay claiming benefits because Social Security undercompensates them at ages below normal retirement age, but overcompensates them above it.

Differences between Men and Women. The benefit adjustments depicted in Figure V are based on the unisex life tables for individuals born in 1950. These life tables do not take into account the fact that, on the average, men have shorter life expectancies than women. Since the same adjustments apply to both men and women, men will be more likely to retire early if everything else is equal. To illustrate this point, Figure VI compares the scheduled adjustments to adjustments based on a 4 percent real discount rate, separated by sex:

- At the early retirement age of 62, men will consider a payment of 72.5 percent of full benefits as actuarially fair; by contrast — because of their longer life expectancies — women would require 74.6 percent at age 62.
- Men will require a higher payment from Social Security than women at age 70 to induce them to delay retirement — 143.5 percent of full benefits for men versus 138.3 percent for women — because their relatively shorter lives make men are more present-oriented than women.

Men will view the scheduled benefits for retirement prior to 66 as more than actuarially fair. By contrast women are more likely to consider the scheduled benefits at early retirement ages as approximately fair. At later retirement ages, both men and women would require greater compensation for delayed retirement than is scheduled under current law. As these two figures illustrate, when examining actuarial fairness, it is important to remember there are differences between the sexes in life expectancies as well as differences in the rates at which individuals discount a stream of future benefits compared with benefits today.

Conclusion. Given these considerations, what should be the goal of public policy? At a minimum, the Social Security system should be actuarially fair for the average worker. But for the reasons mentioned above, such a structure encourages many individuals to claim benefits early.

¹ The 9 percent real discount rate was chosen to represent someone who is very present-oriented.

“Adjustments to early and delayed retirement benefits could keep Social Security actuarially fair.”

Updating Benefit Adjustments

If the normal and early retirement ages rise with increases in life expectancy, the age-specific adjustments in the Social Security benefit formula must also change to maintain the program’s actuarial fairness.

Benefits are actuarially fair, or equal, if they provide similar expected lifetime benefits regardless of the age at which workers start claiming them.²² The following discussion outlines changes already taking place under current law, which provides a model for how future benefit adjustments could be structured to keep pace with the new normal and early retirement ages discussed in the previous section.

Benefit Changes under Current Law. Beyond the normal retirement age, benefits are increased for every year an individual delays claiming Social Security. Payments are reduced for individuals who claim benefits before reaching normal retirement age. For example, if people who turn 62 this year start claiming benefits on their 62nd birthday, they will receive a monthly check equal to 75 percent of their full benefits.²³ If they wait until age 66, they will receive the full 100 percent of their benefits. And if they wait until 70 (or later) to claim benefits, they will receive 132 percent of their full benefits — a 32 percent bonus.²⁴

There is disagreement about whether the current rates at which Social Security benefits are reduced or enhanced are actuarially fair.²⁵ If the

adjustments yield lower expected lifetime benefits for delaying retirement, they may encourage retirees to claim benefits early, and if they yield higher expected lifetime benefits for delaying retirement, they may encourage workers to work beyond the normal retirement age.

The 1983 reforms are gradually changing the normal retirement age and the adjustments for early and delayed retirement.²⁶ [See the sidebar: “Actuarial Fairness under Current Law.”] Figure VII demonstrates the effects of these changes:

- Benefits for individuals born in 1924 to 1937 are adjusted at the same rate before the normal retirement age of 65, but diverge above it.
- The reward for delayed retirement rises from 3 percent per year for those born in 1924 to 6.5 percent for those born in 1937.
- The bonus for each year of delayed retirement after the normal retirement age will rise to 8 percent for individuals born after 1942.²⁷

The horizontal shifts in the delayed retirement schedules illustrate the effects of raising the normal retirement age — ultimately to 67 for individuals born in 1960 and later.

“The bonus for delayed retirement is increasing.”

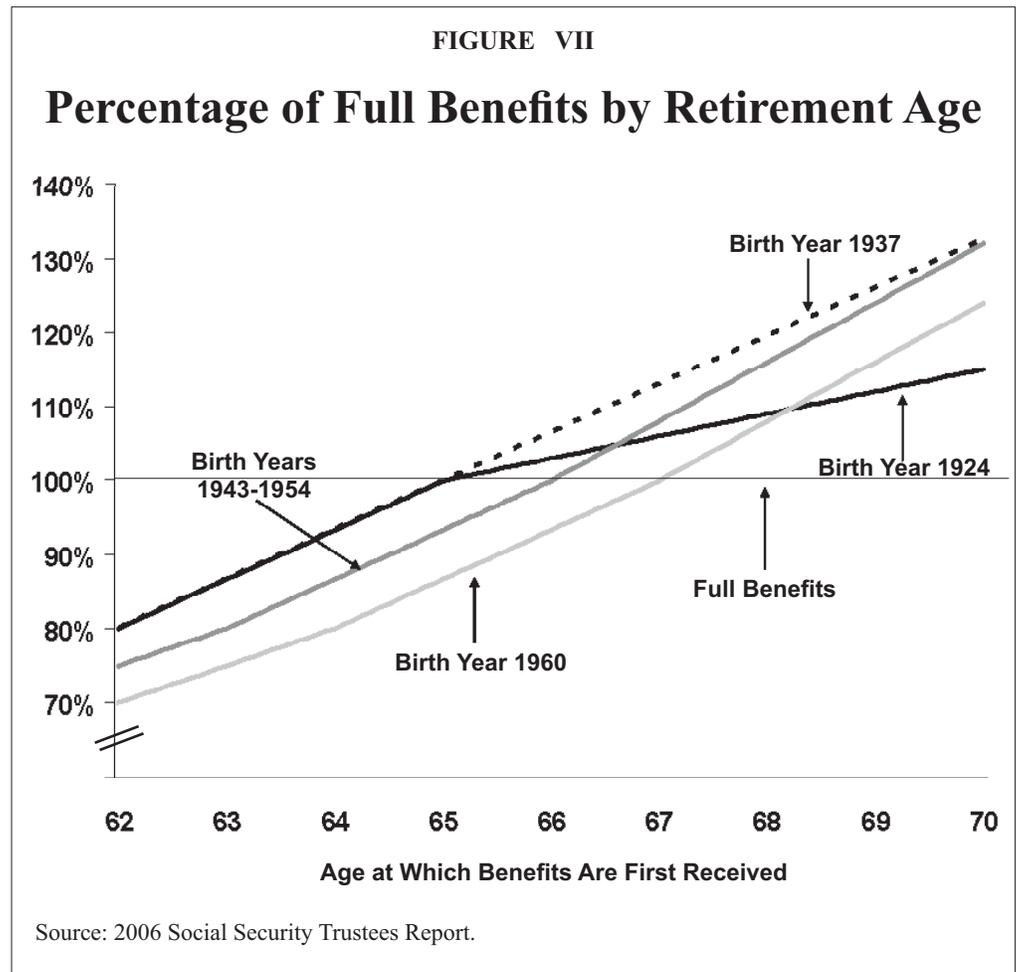
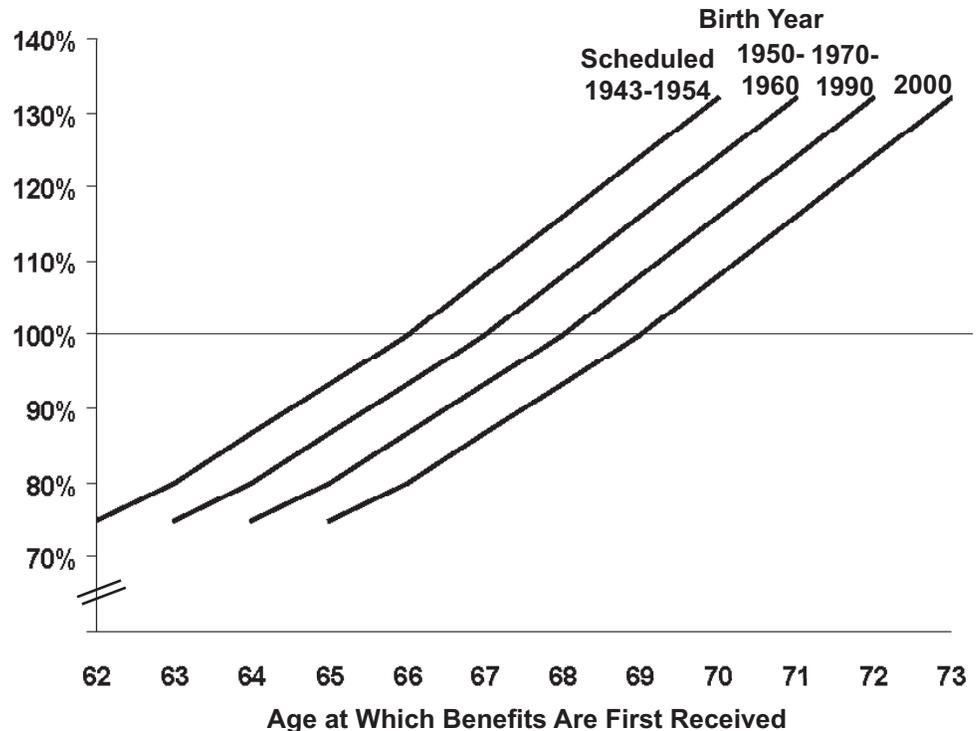


FIGURE VIII

Percentage of Full Benefits: Scheduled versus Indexed by Normal Retirement Ages



Note: Normal retirement ages are indexed to hold retirement to work years constant across generations.

Source: Authors' calculations.

“Benefit adjustments for early and delayed retirement could be indexed for increasing longevity.”

Note the 1983 reforms did *not* raise the early retirement age from 62. As the number of years between 62 and the normal retirement age increases from three years to five years, the benefits paid to these earliest retirees will fall from 75 percent to 70 percent. Thus, individuals born between 1943 and 1954 who start claiming benefits at 62 will receive 75 percent of their full benefits while those born in 1960 will receive 70 percent.

The adjustments made by the 1983 reforms described above provide a model for how the penalty-reward adjustments can be further shifted to provide incentives for longer workforce participation.

Indexing Bonuses and Penalties for Early and Delayed Retirement to Longevity. Indexing the early and normal retirement ages to account for increasing longevity requires changing the rate of benefit adjustments for early retirement and delayed receipt of benefits. This could be done by shifting the scheduled adjustments for individuals born in 1943 to 1954 to hold the ratio of retirement to work years constant as the normal retirement age increases. Figure VIII shows these shifts using the schedule for those born in 1943 to 1954 as a guide. For workers born in 1960, the new adjustments would be identical to those under current law with two exceptions:

- The early retirement age would be increased to 63, and
- The 8 percent delayed retirement credit would be extended to the age of 71.

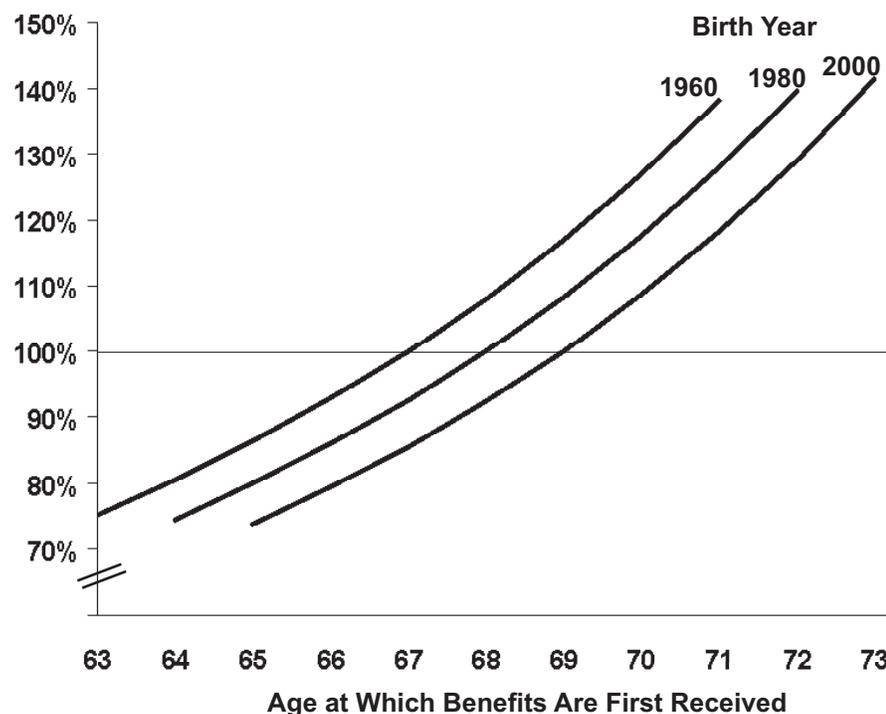
Thus, the adjustments would begin at the early retirement age — four years before the normal retirement age ($67 - 4 = 63$) — and end four years after the normal retirement age ($67 + 4 = 71$).

However, for these adjustments to be actuarially fair, regardless of the year in which a worker was born, life expectancies at the new early retirement ages would have to be similar. Figure IX presents adjustments for several birth years based on the new normal and early retirement ages, assuming a 3 percent real discount rate.

- Workers born in 1960 would receive 75.2 percent of their full benefits at the initial early retirement age of 63, full benefits at 67 and if they delay retirement benefits until age 71, a 38.1 percent bonus, or 138.1 percent of their full benefits.

FIGURE IX

Actuarially Fair Adjustments Based on Hypothetical New Normal and Early Retirement Ages



“After all the adjustments, Social Security benefits would be actuarially fair.”

Note: Calculated using a 3 percent real discount rate. Normal retirement ages are indexed to hold retirement years to work years constant across generations.

Source: Authors’ calculations.

- Workers born in 1980 would receive 74.5 percent of their full benefits at the initial early retirement age of 64, full benefits at 68, and a maximum for delaying retirement benefits until age 72 of 139.6 percent of their full benefits.
- Workers born in 2000 would receive 73.9 percent of their full benefits at the initial early retirement age of 65, full benefits at 69, and a maximum for delaying retirement benefits until age 72 of 141.3 percent of their full benefits.

The initial benefit levels are all essentially equivalent to the 75 percent for early retirees shown in Figure VII. The annual bonuses for delayed retirement after the new normal retirement ages for future retirees are greater than the current 8 percent per year.

Conclusion

This study examined several ways to update Social Security. The primary effect of these changes would be to increase work by older Americans. Eliminating the earnings test, reducing OASI payroll taxes on individuals eligible to receive benefits, increasing the normal and early retirement age, and rewarding continued work through actuarially fair adjustments will give individuals increased incentives to remain in the labor force. On balance, these reforms would likely improve the Social Security system's finances.²⁸ Increased labor market participation by older workers would raise income tax revenues as well as provide Medicare payroll taxes. It will also improve Medicare's finances as older Americans stay active in the labor force and receive some of their health coverage in the form of compensation from their employers.

"These changes would improve the finances of seniors and Social Security by encouraging work."

Liqun Liu is an associate research scientist with, and Andrew J. Rettenmaier is executive associate director of, the Private Enterprise Research Center at Texas A&M University. Rettenmaier is a senior fellow with the National Center for Policy Analysis.

NOTE: Nothing written here should be construed as necessarily reflecting the views of the National Center for Policy Analysis or as an attempt to aid or hinder the passage of any bill before Congress.

Notes

- ¹ The percentage of older men who work has risen slightly since the early to mid-1980s.
- ² See Franco Peracchi and Finis Welch, “Trends in Labor Force Transitions of Older Men and Women,” *Journal of Labor Economics*, Vol. 12, No. 2, 1994, pages 210-242. Also see Alan Krueger and Jorn-Steffen Pischke, “The Effect of Social Security on Labor Supply: A Cohort Analysis of the Notch Generation,” *Journal of Labor Economics*, Vol. 10, No. 4, 1992, pages 412-437. Krueger and Pischke concluded that the growth in the expected lifetime stream of Social Security benefits, or Social Security wealth, cannot explain much of the decline in male labor supply.
- ³ Confirming earlier research, economist Michel J. Vanderhart of Deloitte & Touche found that most of the decline in work by retirement-aged men can be explained by the increasing value of Social Security benefits. See Michel J. Vanderhart, “Labor Supply of Older Men: Does Social Security Matter?” *Economic Inquiry*, Vol. 41, No. 2, 2003, pages 250-263.
- ⁴ As a caveat to the causal relationship between Social Security benefits and labor force participation, note that labor force participation was declining prior to the passage of the Social Security legislation.
- ⁵ For more information, see “Old-Age, Survivors, and Disability Insurance,” *Annual Statistical Supplement to the Social Security Bulletin, 2005* (Washington, D.C.: Social Security Administration, February 2006), Table 6.B5. Available at <http://www.ssa.gov/policy/docs/statcomps/supplement/2005/index.html>.
- ⁶ The earnings test now does not apply to Social Security beneficiaries who have attained normal retirement age. For more information, see “Exempt Amounts Under the Earnings Test,” Social Security Administration Web site feature, October 2005. Available at <http://www.ssa.gov/OACT/COLA/rtea.html>.
- ⁷ For example, individuals born in 1941 will reach their normal retirement age of 65 and 8 months this year. For the months in 2006 prior to their reaching 65 and 8 months, this second threshold applies.
- ⁸ Furthermore, the fact that early receipt of benefits provides a basic income stream regardless of a change in job status makes it attractive to individuals who continue to work.
- ⁹ Individuals’ observed discount rates, as they pertain to Social Security benefit claiming, combine impatience, subjective mortality assessments and risk-aversion.
- ¹⁰ Jonathan Gruber and Peter Orszag, “Does the Social Security Earnings Test Affect Labor Supply and Benefits Receipt?” *National Tax Journal*, Vol. 56, No. 4, 2003, pages 755-773.
- ¹¹ Furthermore, Gustman and Steinmeier estimate that eliminating the earnings test would result in a 10 percentage point increase in benefit claims among men — primarily those who are currently working. See Alan Gustman and Thomas Steinmeier, “The Social Security Retirement Earnings Test, Retirement and Benefit Claiming,” National Bureau of Economic Research, Working Paper No. 10905, November 2004.
- ¹² The “Senior Citizens Freedom to Work Act of 2000.”
- ¹³ The data used to make the comparison is from the “Benefits and Earnings Public-Use File, 2004,” published by the Social Security Administration. Available at <http://www.ssa.gov/policy/docs/microdata/earn/index.html>. The sample used to produce the graph is limited to retired men. Retirees in each age group are defined as individuals who started claiming benefits at an age younger or equal to the ages in the group.
- ¹⁴ The exempt amount of wages, or threshold, above which the earnings test applied, was lower for retirees below the normal retirement age than for workers above the normal retirement age. Between 1996 and 1999 the lower threshold rose from \$8,280 to \$9,600 and the higher one rose from \$12,500 to \$15,500. Between 2000 and 2003 the lower threshold increased from \$10,080 to \$11,520. Given that, beginning on January 1, 2000, there was no earnings test for retirees above the normal retirement age, a new threshold was imputed by increasing the higher threshold of \$17,000 in 2000 at the same rate as the growth in the lower threshold. A higher threshold continues to apply to earnings earned between the month one reaches age 65 and the normal retirement age. It rises more rapidly than the lower threshold. For this comparison the imputed values are more relevant than the legislated values.
- ¹⁵ Jae G. Song and Joyce Manchester, “New Evidence on Earnings and Benefit Claims Following Changes in the Retirement Earnings Test in 2000,” Social Security Administration, Office of Research, Evaluation, and Statistics, July 2006. Song and Manchester found that removing the earnings test had the greatest effect on the earnings of higher earning individuals. They found the increase in labor force participation was the result of older workers staying in the labor force, not workers who had exited coming back.

¹⁶ Leora Friedberg, “The Labor Supply Effects of the Social Security Earnings Test,” *Review of Economics and Statistics*, Vol. 82, 2000, estimates the labor supply elasticity of older men using changes in the earnings test to identify the elasticity. The estimates range between 0.225 and 0.316. By comparison, the elasticity for the workforce as a whole is close to 0.15 based on a survey of estimates in Don Fullerton, “On the Possibility of an Inverse Relationship Between Tax Rates and Government Revenues,” *Journal of Public Economics*, Vol. 19, No. 3, 1982.

¹⁷ Eliminating the payroll tax on older workers would increase their labor force participation, which would increase income tax revenues, but it would also reduce total payroll tax revenues. Individuals age 62 and older earn about 4.7 percent of total taxable wages each year, based on data from the March 2004 supplements to the Current Population Survey. Thus, the maximum cost of eliminating these taxes for Social Security recipients would be less than 5 percent of all payroll tax revenues. However, the revenue loss would be cut in half if only the employer's or employee's portion of the OASI payroll tax (5.3 percent each) were reduced or eliminated.

¹⁸ See Felicitie C. Bell and Michael L. Miller, “Life Tables of the United States Social Security Area 1900-2100,” Social Security Administration, Office of the Chief Actuary, Actuarial Study No. 116, SSA Pub. No. 11-11536, August 2002. Available at www.ssa.gov/OACT/NOTES/actstud.html.

¹⁹ Chris Chapman and Alice H. Wade, “Estimated OASDI Long-Range Financial Effects of Several Provisions Requested by the Social Security Advisory Board,” Memorandum from the Office of the Chief Actuary, August 10, 2005. The estimates were prepared for the Social Security Advisory Board. Available at http://www.ssab.gov/Why_action_is_needed_soon.htm.

²⁰ Under current law, the normal retirement age is gradually increasing from age 65 to 66 by two months for each birth year from 1938 through 1942. However, the smooth increase in the retirement age pauses for birth years 1943 through 1954; the normal retirement age remains age 66. The normal retirement age will continue to rise from age 66 to 67 by two months for each birth year between 1955 and 1960.

²¹ Alan L. Gustman and Thomas L. Steinmeier, “The Social Security Retirement Earnings Test, Retirement and Benefit Claiming.”

²² For more on expected present value, see the Appendix.

²³ A beneficiary cannot technically begin receiving benefits before the age of 62 and one month. Thus, the factor applied for early retirement is higher than 75 percent (75.42 percent).

²⁴ Further, if individuals remain in the labor force, their Average Indexed Monthly Earnings, and subsequently their benefit amount, may increase if their current earnings are among their 35 highest earnings years.

²⁵ Jonathan Gruber and Peter Orszag, “Does the Social Security Earnings Test Affect Labor Supply and Benefits Receipt?” suggest that the factors are actuarially fair. Alan Gustman and Thomas Steinmeier, “The Social Security Retirement Earnings Test, Retirement and Benefit Claiming,” note that they are more than actuarially fair — that is, the factors encourage early retirement, particularly for individuals with high discount rates.

²⁶ See Table V.C3 in the 2006 Social Security Trustees Report.

²⁷ Benefits are reduced for early retirement by 5/9 of one percent for each of the first 36 months before the normal retirement age and then by 5/12 for each month thereafter.

²⁸ The positive labor supply effects and the consequent revenue effects are not typically scored by the Office of the Chief Actuary in evaluating reform proposals.

Appendix: Actuarial Fairness

Define the present value of an annual \$1 annuity evaluated at age x as a_x :

$$a_x = \sum_{t=1}^{T_x} \frac{l_{x+t}}{l_x} \frac{1}{(1+r)^t},$$

where l_x is the number of survivors to the age of x from a given birth cohort, l_{x+t} is the subset of l_x which die in period t , r is the discount rate, and T_x identifies the maximum remaining years of life given that age x is the starting age of the summation. Thus, the ratio $\frac{l_{x+t}}{l_x}$ is the probability of each potential stream of \$1 annuity payments. In the present case the Social Security life tables extend to 119 years of age.

From the annuitant's point of view, two alternative schedules of payments are fair if the expected present values are identical.

For example, suppose a potential Social Security beneficiary is deciding between beginning to collect benefits at age x or age $x+n$. For this individual, the two benefit schedules will be actuarially fair if:

$$a_x = \delta_x^n \sum_{t=n+1}^{T_x} \frac{l_{x+t}}{l_x} \frac{1}{(1+r)^t}$$

where δ_x^n is the factor applied to the original schedule of benefits that have been delayed by n years. The set of δ_x^n for $x = 62$ and $n = 0, \dots, 8$ define the actuarially fair Social Security gradient (adjustment rate) for a given birth cohort and discount rate.

About the NCPA

The NCPA was established in 1983 as a nonprofit, nonpartisan public policy research institute. Its mission is to seek innovative private sector solutions to public policy problems.

The center is probably best known for developing the concept of Medical Savings Accounts (MSAs), now known as Health Savings Accounts (HSAs). The *Wall Street Journal* and *National Journal* called NCPA President John C. Goodman “the father of Medical Savings Accounts.” Sen. Phil Gramm said MSAs are “the only original idea in health policy in more than a decade.” Congress approved a pilot MSA program for small businesses and the self-employed in 1996 and voted in 1997 to allow Medicare beneficiaries to have MSAs. A June 2002 IRS ruling frees the private sector to have flexible medical savings accounts and even personal and portable insurance. A series of NCPA publications and briefings for members of Congress and the White House staff helped lead to this important ruling. In 2003, as part of Medicare reform, Congress and the President made HSAs available to all non-seniors, potentially revolutionizing the entire health care industry.

The NCPA also outlined the concept of using tax credits to encourage private health insurance. The NCPA helped formulate a bipartisan proposal in both the Senate and the House, and Dr. Goodman testified before the House Ways and Means Committee on its benefits. Dr. Goodman also helped develop a similar plan for then presidential candidate George W. Bush.

The NCPA shaped the pro-growth approach to tax policy during the 1990s. A package of tax cuts, designed by the NCPA and the U.S. Chamber of Commerce in 1991, became the core of the Contract With America in 1994. Three of the five proposals (capital gains tax cut, Roth IRA and eliminating the Social Security earnings penalty) became law. A fourth proposal — rolling back the tax on Social Security benefits — passed the House of Representatives in summer 2002.

The NCPA’s proposal for an across-the-board tax cut became the focal point of the pro-growth approach to tax cuts and the centerpiece of President Bush’s tax cut proposal. The repeal by Congress of the death tax and marriage penalty in the 2001 tax cut bill reflects the continued work of the NCPA.

Entitlement reform is another important area. With a grant from the NCPA, economists at Texas A&M University developed a model to evaluate the future of Social Security and Medicare. This work is under the direction of Texas A&M Professor Thomas R. Saving, who was appointed a Social Security and Medicare Trustee. Our online Social Security calculator, found on the NCPA’s Social Security reform Internet site (www.TeamNCPA.org), allows visitors to discover their expected taxes and benefits and how much they would have accumulated had their taxes been invested privately.

Team NCPA is an innovative national volunteer network to educate average Americans about the problems with the current Social Security system and the benefits of personal retirement accounts.

In the 1980s, the NCPA was the first public policy institute to publish a report card on public schools, based on results of student achievement exams. We also measured the efficiency of Texas school districts. Subsequently, the NCPA pioneered the concept of education tax credits to promote competition and choice through the tax system. To bring the best ideas on school choice to the forefront, the NCPA and Children First America published an *Education Agenda* for the new Bush administration, policymakers, congressional staffs and the media. This book provides policymakers

with a road map for comprehensive reform. And a June 2002 Supreme Court ruling upheld a school voucher program in Cleveland, an idea the NCPA has endorsed and promoted for years.

The NCPA's E-Team program on energy and environmental issues works closely with other think tanks to respond to misinformation and promote commonsense alternatives that promote sound science, sound economics and private property rights. A pathbreaking 2001 NCPA study showed that the costs of the Kyoto agreement to halt global warming would far exceed any benefits. The NCPA's work helped the administration realize that the treaty would be bad for America, and it has withdrawn from the treaty.

NCPA studies, ideas and experts are quoted frequently in news stories nationwide. Columns written by NCPA scholars appear regularly in national publications such as the *Wall Street Journal*, the *Washington Times*, *USA Today* and many other major-market daily newspapers, as well as on radio talk shows, television public affairs programs, and in public policy newsletters. According to media figures from Burrelle's, nearly 3 million people daily read or hear about NCPA ideas and activities somewhere in the United States.

The NCPA home page (www.ncpa.org) links visitors to the best available information, including studies produced by think tanks all over the world. Britannica.com named the ncpa.org Web site one of the best on the Internet when reviewed for quality, accuracy of content, presentation and usability.

What Others Say about the NCPA

"...influencing the national debate with studies, reports and seminars."

- TIME

"Oftentimes during policy debates among staff, a smart young staffer will step up and say, 'I got this piece of evidence from the NCPA.' It adds intellectual thought to help shape public policy in the state of Texas."

- Then-GOV. GEORGE W. BUSH

"The [NCPA's] leadership has been instrumental in some of the fundamental changes we have had in our country."

- SEN. KAY BAILEY HUTCHISON

"The NCPA has a reputation for economic logic and common sense."

- ASSOCIATED PRESS

The NCPA is a 501(c)(3) nonprofit public policy organization. We depend entirely on the financial support of individuals, corporations and foundations that believe in private sector solutions to public policy problems. You can contribute to our effort by mailing your donation to our Dallas headquarters or logging on to our Web site at www.ncpa.org and clicking "An Invitation to Support Us."