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Social Security: A Discussion of Some Issues Affecting the Early Retirement Age

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ABSTRACT

There are many proposals to raise the Social Security's "full retirement age," but usually less attention is paid to Social Security's "early retirement age," the minimum age at which one is eligible to retire. This report examines certain technical aspects concerning the issues surrounding the earliest age of retirement. Among other things, it finds that the reduction applied to benefits to compensate for their early receipt is generally accurate for workers, but will become too large in the future, especially for women, as life expectancies increase. This report will be updated as events warrant.

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Summary

To become eligible for Social Security retirement benefits, workers and their spouses must attain a minimum age. Under current law, this minimum age is 62 for workers and their spouses, and age 60 for their widows and widowers. However, their benefits are lower than those they would receive if they were to elect benefits at the "full retirement age." The full retirement age currently is 65, but will gradually rise to 67 over the next 27 years. The reduction for benefits taken before the full retirement age is designed to be "actuarially fair," meaning that it provides approximately the same value of benefits over a normal lifetime regardless of whether a person begins to receive benefits before or at the full retirement age.

Because Social Security is facing long-range financing problems, numerous proposals have been made to induce workers to delay retirement. Most of these proposals raise the full retirement age and either raise the earliest age of eligibility for retirement or increase the reduction for early retirement. In the debate about changing retirement ages, the focus usually centers on the full retirement age, with consideration of early retirement age issues, if done at all, focused primarily on whether deliberalizations would lead to financial hardships for many workers.

This paper examines certain technical aspects of the issues surrounding the earliest age of retirement, not only in terms of its treatment under reform proposals, but also in terms of its effect under today's law. For example, are the reduction factors placed in the law from 1956 to 1983 still accurate, given that life expectancies have grown substantially, and are projected to grow further? How do the differences in life expectancies between men and women affect such analysis? Should the reduction factors for spouses and surviving spouses be reexamined? What is the value of continued work between early and full retirement, etc.?

Among its findings are that the concept of "actuarial fairness" is somewhat inconsistent and not well understood, especially by the public who receive only rudimentary guidance on the implications of when they retire. Despite the many changes in demographic and economic factors since 1956, on a unisex basis the reduction factors applicable to workers have retained a fairly high degree of accuracy. In the future, all else held equal the effect of projected increases in longevity will tend to make reduction factors too large, particularly for women. Taken by itself, this implies that, in terms of maximizing lifetime benefits, it will increasingly become more disadvantageous for women to elect early retirement. The reduction factors for spouses are too small, but this can be said to be consistent with Congress' original intent. Because these conclusions are based on the assumptions of the 2000 Trustees' Report, the reader should be aware that if, as some demographers have suggested, longevity will improve faster than the Trustees' assume, then the reduction factors will become too large more rapidly. Finally, viewed purely as an "investment decision" (i.e., comparing benefits to payroll taxes), it is probable that under current law it is generally more advantageous to retire early, but this conclusion must be tempered by the high degree of variability in workers' circumstances, the assumptions involved, and the more important other reasons workers have to retire.

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Background

To become eligible for Social Security retirement benefits, workers and their spouses must attain a minimum age. Under current law, this minimum age is 62 for workers and their spouses, and age 60 for their widows and widowers. However, their benefits are lower than those they would receive if they were to elect benefits at the "full retirement age." The full retirement age currently is 65. The reduction for benefits taken before the full retirement age is designed to provide approximately the same value of benefits over a normal lifetime regardless of whether a person begins to receive benefits before or at the full retirement age.

History

When Social Security was enacted in 1935, the minimum age at which workers could receive Social Security "old-age" benefits was set at 65. The reason for this choice is not clear, but it is often said that age 65 was selected because it was used in most state old-age assistance plans and in many pension plans and foreign social insurance programs. In 1939, when Congress added benefits for wives and widows of workers, the minimum age for eligibility also was set at age 65. In 1956, for women Congress lowered the minimum age for benefits as a retired worker, wife, or widow to age 62, but also provided that benefits taken as a worker or wife before age 65 would be permanently reduced to account for the longer period over which benefits would be paid. For benefits as a retired worker, this "actuarial reduction" is 5/9 of 1% for each month benefits are received before age 65 — a 20% reduction at age 62. For benefits as a wife, the actuarial reduction was set at 25/36 of 1% for each month benefits are received before age 65 — a 25% reduction at age 62. Congress extended these "early retirement" provisions to men in 1961 (men had been made eligible for benefits as a spouse or surviving spouse in 1950). In 1972, Congress set aged widows' and widowers' benefits at 100% of the deceased worker's benefit if elected at age 65 or later. Reduced widow(er)s' benefits could be elected as early as age 60 (the reduction is 19/40 of 1% per month — a 28.5% reduction at age 60).

Beginning in the mid-1970s, raising the retirement age was studied by several advisory panels. The initial impetus for these studies was concern over projections of growing long-range deficits in the program. A major part of the problem reflected a declining ratio of workers to retirees. Forecasts showed that, whereas a little more than three workers were supporting each recipient then, only two would do so in the next century. It was argued that increasing the retirement age would offset this decline, thus bolstering the program's financing. It also was argued that it would

properly recognize the substantial increases in longevity that had occurred and were projected to continue.

Raising the Full Retirement Age to 67

When Congress enacted legislation (P.L. 98-21) to solve Social Security's financing problems in 1983, it included a provision that gradually will raise the full retirement age from 65 to 67. It does so in two steps. First, for workers and their spouses, the full retirement age will increase by 2 months for each year that a person is born after 1937 (i.e., attains age 62 after 1999), until it reaches age 66 for those who were born in 1943 through 1954 (who attain age 62 in 2005 through 2016). Second, it will increase again by 2 months for each year that a person is born after 1954 (i.e., attains age 62 after 2016), until it reaches age 67 for those who were born after 1959 (who attain age 62 after 2021).

The early retirement ages will not change, but benefits will be subject to additional actuarial reductions. Early retirement benefits will still be reduced initially by 5/9 of 1% a month for the first 36 months of early retirement, but for each month thereafter the reduction will be 5/12 of 1%. When the full retirement age reaches 67, the reduction in retirement benefits ultimately will be 30%, instead of the present 20%, at age 62.

Table 1. 1983 Changes in the Social Security Retirement Age for Workers

Year of birth	Year age 62	Full retirement age (year/month)	Reduction at age 62
before 1938	before 2000	65	20.0%
1938	2000	65/2	20.8
1939	2001	65/4	21.7
1940	2002	65/6	22.5
1941	2003	65/8	23.3
1942	2004	65/10	24.2
1943-1954	2005-2016	66	25.0
1955	2017	66/2	25.8
1956	2018	66/4	26.7
1957	2019	66/6	27.5
1958	2020	66/8	28.3
1959	2021	66/10	29.2
1960 & later	2022 & later	67	30.0

The reduction for spouses of retired workers ("aged spouses") will likewise be 5/12 of 1% for each month of reduction in excess of 36 months. When the full retirement age reaches 67, the reduction in aged spouses' benefits ultimately will be 35%, instead of the present 25%, at age 62.

The age for full benefits for widows and widowers likewise will rise to 67, and be phased in similarly to the full retirement age beginning in 2000. However, because the earliest age of eligibility for benefits is 60 rather than 62, the year of birth of the first cohort affected is 1940 rather than 1938. Thus, the age for unreduced benefits for surviving spouses will increase by 2 months for each year that a person is born after 1939 (i.e., attains age 60 after 1999), until it reaches age 66 for those who were born in 1945 through 1956 (who attain age 60 in 2005 through 2016). Second, it will increase again by 2 months for each year that a person is born after 1956 (i.e., attains age 60 after 2016), until it reaches age 67 for those who were born after 1961 (who attain age 60 after 2021).

For widows and widowers, there will be no increase in the reduction at the earliest eligibility age of 60, i.e., they will continue to receive 71.5% of the full benefit (a 28.5% reduction). However, the benefits of those who begin to receive benefits between the earliest and full retirement ages will be subject to varying degrees of increased reduction. This variation occurs because the law specifies that, as the full retirement age increases, the reduction factors will be revised by dividing 28.5% by the number of months between age 60 and the full retirement age. The following table shows the difference in the reduction factors for aged and surviving spouses retiring today and those retiring when the change in the reduction factors is fully implemented.

Table 2. Amount of Actuarial Reduction for Spousal Benefits

	Aged Spouses		Widow(er)s	
Retiring at age	Born before 1938	Born after 1959	Born before 1940	Born after 1961
60	NA	NA	28.5%	28.5%
61	NA	NA	22.8	24.4
62	25.0%	35.0%	17.1	20.4
63	17.7	30.0	11.4	16.3
64	8.3	25.0	5.7	12.2
65	0	17.7	0	8.1
66	0	8.3	0	4.1
67	0	0	0	0

The 1983 amendments also changed the amount by which workers' benefits can increase if they do not receive Social Security for any month after they attain the full

retirement age and before age 70. These increases, called delayed retirement credits (DRCs), are being phased in for workers born in 1925 through 1943. Workers reaching the full retirement age of 65 in 2000 (born in 1935) will receive an increase in their benefit amount of ½ of 1% for each month after attaining full retirement age that they do not receive a benefit (the increase would be 6% if benefits were not received for an entire year). When the scheduled increases in the DRC are fully phased-in, workers born in 1943 or later will have their benefits increased by 2/3rds of 1% for each month after attaining full retirement age that they did not receive a benefit (a yearly increase of 8%). At the time enacted, it was projected that when the increase in the DRC is fully phased in, the value of the DRC over a recipient's average lifetime will be just about equal to the loss incurred when he or she did not receive a benefit.

In 1983, it was projected that the higher retirement age would reduce Social Security's long-range costs by slightly more than 5%. This change, combined with other measures contained in the 1983 amendments, was projected to balance Social Security's income and outgo over the next 75 years. Since 1983, Social Security's financial picture has worsened. Under the latest "best estimate" of the Social Security Board of Trustees, the program will be insolvent by 2037. Over the next 75 years the program's "actuarial balance" is equal to -1.89% of taxable earnings.[1] Said another way, on average the program's expenditures are projected to exceed its income by 14%. Combined with growing concern about the cost of "entitlement" programs generally, this long-range problem has renewed interest in examining changes in the retirement age.

Recent Proposals to Change Retirement Ages

A number of reform bills introduced in the last four Congresses would, among other things, accelerate the phase-in of the increase in the full retirement age to 67 or raise the full retirement age to 68, 69 or 70. Several would raise the retirement age indefinitely, either by a set schedule (e.g., by 1 month for every 2 years that a person is born after 1949), or by a form of indexing (e.g., increasing it in proportion to increases in life expectancy, or by maintaining a constant ratio between expected

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[1] Taxable earnings is the amount of wages or self-employment income that is subject to the Social Security tax. For long-range forecasting, Social Security's income and costs are expressed as a percentage of taxable earnings. Measuring the program's income and outgo over long periods (75 years) by describing the portion of taxable earnings they represent is more meaningful than using dollar amounts, because the value of the dollar changes over time. Under the "intermediate" Alternative II assumptions of the trustees (those usually used in estimating Social Security's financing), the system's long-range costs and income are projected to be 15.40% and 13.51% of taxable earnings, respectively, a difference of 14%. To restore actuarial balance, on average revenues would have to be raised and/or outgo reduced by the equivalent of 1.89% (15.40-13.51) of taxable earnings. However, on a year-by-year basis, income is currently greater than outgo but this situation is projected to reverse by 2025, and then costs will increasingly exceed income (by 46% by the end of the projection period in 2075).

lifetimes in work and in retirement). While making other reforms to the system, one would repeal the 1983 change in the law and keep the full retirement age at age 65.[2]

The treatment of early retirement under these bills varies. In regard to the earliest age for eligibility, they would either raise it in tandem with increases in the full retirement age (i.e., maintain the same number of years between early and full retirement), or leave it at age 62. Some that raise the full retirement age leave the earliest age at 62 by inference, as the bills do not address the subject. In regard to changes in the reduction for early retirement, the changes are more problematic. Some of those that leave the age at 62 adjust the reduction factors, in theory to compensate for the longer period between earliest and full retirement, but some do not address this issue. Of those that raise the earliest age for eligibility in tandem with the increase in the full retirement age, some leave the reduction factors the same, while others increase them. There also are reform bills that do not raise the retirement ages, but do increase the reduction for early retirement, e.g., so that a worker born after 1936 or 1943 retiring at age 62 would have his or her benefits reduced by 37% (rather than 30% under current law). Nearly all are silent on the treatment of aged and surviving spouses who retire before the full retirement age.

These different treatments of the reduction for early retirement in these proposals may reflect differences in policy, but the fact that the treatments are quite disparate, and in some cases apparently overlooked, suggests that what happens to early eligibility, not just for retired workers but also for aged and surviving spouses, may be being neglected in the debate about raising the Social Security full retirement age. This is not to say that there is little public literature on the implications of changing the retirement ages for full and early retirement.[3] However, these discussions focus primarily on the paramount issue of whether raising the early retirement age would present hardships for workers, e.g., would they have inadequate resources to take further reduced benefits or be unable to work to later ages.

This paper examines certain technical aspects of the issues surrounding the earliest age of retirement, not only in terms of its treatment under reform proposals, but also in terms of its effect under today's law. For example, are the reduction factors placed in the law from 1956 to 1983 still accurate, given that life expectancies have grown substantially, and are projected to grow further? How do the differences in life expectancies between men and women affect such analysis? Should the reduction factors for spouses and surviving spouses be reexamined? What is the value of continued work between early and full retirement, etc.?

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[2] For information on proposals that would make changes in the retirement age, and arguments for and against doing so, see CRS Report 94-622, *Social Security: Raising the Retirement Age, Background and Issues*, by Geoffrey Kollmann.

[3] For example, see Congressional Budget Office, *Raising the Earliest Eligibility Age for Social Security Benefits*, CBO Papers, January, 1999, and GAO report *Social Security Reform: Implications of Raising the Retirement Age*, HEHS-99-112, August, 1999.)

Issues

Financing

One reason that the proposals to raise the full retirement age may appear to pay short shrift to changes in early retirement is that such changes have only a slight effect on the financial status of the Social Security program. Raising the full retirement age can reduce the program's costs significantly, as it lowers benefits payable to workers any age.[4] However, it matters little in terms of benefit costs if the age of eligibility for early retirement changes or if there is a longer period between it and the full retirement age, so long as there are reductions for early retirement that accurately offset the length of the period benefits are received before the full retirement age.[5] One might ask that if the change in early retirement policy were to make workers pay into the system longer, would not this increase the program's revenues? According to one source, these extra taxes would be offset by the higher benefits some individuals would receive because of their additional earnings.[6]

Taken alone, there would be significant savings if the reduction factors were raised. For example, the proposal in several bills that would increase the reduction factors without raising the full retirement age would reduce the cost of the benefits of someone retiring at age 62 by 10%. There currently is no estimate of how much this would reduce program costs, as it is combined with increases in the DRC, which would raise program costs. However, even including the DRC proposal, the combined measure was projected to save 0.33% of taxable payroll, or about a 16% reduction of the long-range deficit.

Equity

Are the Reductions Accurate?

What Does Actuarial Reduction Mean?

Original concept–equalizing program costs. As previously mentioned, the reduction factors for early retirement of workers and aged spouses were enacted as

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[4] For example, when the age of full retirement increases to 67, benefits taken at age 65 will be 86.7%, rather than 100%, of the basic benefit. Benefits taken after age 67 will have fewer delayed retirement credits.

[5] However, if the change has the effect of encouraging people to work longer, it may be beneficial for the economy as a whole. If the country were wealthier, then presumably it would be easier to support the cost of Social Security.

[6] Social Security Advisory Board. *Forum on Implications of Raising the Social Security Retirement Age*. May 1999. Washington, D.C. p. 8. The amount of a worker's Social Security benefit depends in part on the level of the average of her or her highest 35 years of earnings. If by continuing to work a person earns enough to replace a lower year of earnings, his or her benefit will be recomputed to yield a higher benefit.

part of the law that created early retirement for women in 1956. However, they were not part of the original proposal approved by the House, which provided an *unreduced* benefit at age 62 to women entitled to benefits as a worker, aged spouse or widow. The version reported by the Senate Finance Committee provided full benefits at age 62 only to widows. In the Senate's floor consideration of the bill, Senator Kerr offered an amendment to include workers and aged spouses, but "with proportionately reduced benefits – a principle used in the Civil Service Retirement System, the Railroad Retirement System, and in many private sector plans to add flexibility to their retirement programs without excessively increasing the cost to the contributor." The amendment included the reduction factors for early retirement of workers and aged spouses that are still in the law. In response to a question from Senator Long about whether this meant that the amendment would not increase the cost to the program, Senator Kerr replied that "The Senator from Louisiana is correct. I believe that the actuarial authorities of the Department of HEW have estimated that, on the basis of the employment as of last year, the amendment would add approximately $30 million a year to the cost of the fund; but they have advised me that at the increased rate of employment now in effect, the amendment would constitute no liability against the fund."[7] (When long-range estimates were made by the Social Security Administration's Office of the Actuary, it was estimated that the amendment had a cost of .03% of payroll. When early retirement for men was enacted in 1961, the long-range cost was estimated to be exactly 0% of payroll.) Thus, when the reduction factors were put into place, they were viewed from the perspective of having a neutral effect on program costs.

Conventional definition. As mentioned earlier, the meaning of the term "actuarial reduction" as it is used in the actuarial profession, and now commonly accepted, is that it provides that a person will receive approximately the same value of benefits over a normal lifetime regardless of whether he or she began to receive benefits before or at the full retirement age. As defined by the Social Security Administration's Office of the Actuary, an actuarial reduction is appropriate if the *present value* of benefits is the same regardless of a person's age at retirement. The present value of a future stream of benefits is the amount of money, if it were invested at the time of retirement, that would be just sufficient to fund such benefits over the retiree's expected lifetime (in effect, the principal plus interest would just drop to zero on the day the retiree is projected to die). Under this definition, calculating present values requires estimating the probability of the person's survival beyond the earliest age of eligibility (age 62), the size of future cost-of-living adjustments, and the rate of interest the principal amount would earn as an investment (called the "discount" rate). It is important to note that under this definition the present values compared are computed based on the earnings record compiled at age 62 (i.e., the effect of possible increases in benefits due to continued work is not considered).

Conceptually, there is no difference whether equalization of benefits is presented from a program cost or an individual recipient's point of view – both involve calculations that compare the present values of benefits at different ages of retirement.

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[7] *Congressional Record*. July 17, 1956. p.13065

However, given that these calculations present the case of early versus full retirement as purely an investment decision, one might question whether Social Security recipients view the question in those terms. The guidance from the Social Security Administration (SSA) to the public is fairly simple. "As a general rule, early retirement will give you about the same total Social Security benefits over your life time, but in smaller amounts to take into account the longer period you will receive them."[8] The Social Security Handbook published by SSA states:

> Under the reduction formula for a retirement insurance benefit, a person who receives payment for every month will usually be ahead in total retirement insurance benefits received for the first 15 years beginning with the month of entitlement to the reduced benefit. If the worker receives payments for more than 15 years, the total retirement insurance benefits received will usually be less than if he or she had waited until the full retirement age for an unreduced retirement insurance benefit.[9]

This explanation has the virtue of being clear and understandable for persons seeking information about the choice of when to retire.[10] It reinforces the notion that the choice of when to retire is basically a function of the age to which one expects to live, and somewhat addresses the question of "Am I better off retiring now or later?" However, it conflicts with the investment comparison approach in the conventional definition of actuarial reduction.

First, it could be confusing to people who are familiar with life expectancy tables. The Life Tables on which the trustees make their projections show that people retiring today at age 62 have life expectancies of 18.53 years for a male, and 22.11 years for a female. Because these expectancies are longer than the break-even point shown in the SSA Handbook, they would indicate that early retirement is disadvantageous.[11]

Second, it does not take interest into account. Under the conventional definition, the benefit taken at age 65 must be discounted to reflect the interest lost by delaying retirement. Doing so lowers the value of deferred benefits and therefore has the effect of making early retirement appear more advantageous.

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[8] *Benefit Publication No. 05-10035.* P. 5.

[9] *Social Security Handbook.* Section 724

[10] The mathematics are straightforward. For example, if a person aged 62 in 1999 would be entitled to a benefit of $100 a month at age 65, his benefit at age 62 would be $80 a month. The total amount of his benefits over 15 years (i.e., to age 77) would equal $14,400 ($80 X 12 months X 15 years = $14,400) the same amount as the age 65 benefit would be at age 77 ($100 X 12 months X 12 years = $14,400).

[11] Technically, the demographic factor determining the value of future benefits is the probability of surviving to collect benefits for each succeeding year. However, just as is reflected in increased life expectancies, lower mortality rates also increase the probability of survival at each age, so from this perspective it would seem that workers and their dependents should avoid early retirement.

From a lay person's perspective however, this "investment" perspective is probably too abstract to enter into their deliberation of whether or not to claim early retirement. In reality, the prevalence of early retirement (60% of workers retire at their first age of eligibility) indicates that workers decide for reasons other than purely economic considerations (although economists can and do assign a value to leisure). Also, there probably is a strong psychological compulsion to grab a "bird in the hand."

A cost-benefit perspective. The conventional definition above seems to address the question of "Am I better off retiring now or later?" However, that analysis portrays a rather unrealistic situation in which workers stop working at age 62, but defer filing for benefits until later ages. The common decision older workers face is whether to retire or to keep on working, in which case they pay Social Security taxes and have earnings credited to their Social Security record that may or may not increase their eventual Social Security benefit. The question then becomes "Am I better off retiring now *or continuing to work* and retire later?" This point of view is based on the notion that an actuarial reduction is fair if the value of benefits is the same *net of the additional Social Security tax* that must be paid if one continues to work after attaining the early eligibility age. Such a point of view has currency. For example, the proposal in S. 1383, S. 2085 and S. 2086 to increase the reduction for early retirement is based on the premise that Social Security provides a disincentive for workers to delay retirement because any extra benefits they receive are not worth the additional payroll taxes they pay. Also, academic literature on the subject sometimes defines "actuarial fairness" as equalizing additional benefits due to later retirement with the sum of foregone benefits and taxes paid.[12]

Measuring Accuracy of Actuarial Reductions.

Current law. As mentioned above, the "conventional" definition of actuarial reduction is that a person would receive approximately the same value of benefits over a normal lifetime regardless of whether he or she began to receive benefits before or at the full retirement age. Since the enactment of the original legislation, there have been few instances in the public record where the issue of whether the reduction factors are still accurate has been discussed.[13] At first glance, it would appear that they must be outmoded, given that life expectancies have risen substantially and are projected to continue to do so.[14] Clearly, if people are living longer, then those that

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[12] Diamond, P. and J. Gruber. Social Security and Retirement in the United States. *Social Security and Retirement around the World*. Chicago: University of Chicago Press, 1999. (Hereafter cited as Diamond and Gruber, *Social Security and Retirement*)

[13] For a comprehensive analysis of this subject done 10 years ago, See Myers, Robert J., and Bruce D. Schobel. *Early Retirement Reduction and Delayed Retirement Increase Factors Under U.S. Social Security Law*. Transactions, Society of Actuaries. v. XLII, 1990. (Hereafter cited as Myers and Schobel, *Early Retirement Reduction*)

[14] In the latest Trustees' Report, the assumed rate of mortality was lowered by about one-third, meaning that life expectancies will be longer than those shown in the previous year's report. For example, in 2075 life expectancy at birth for women is 85.1 years, compared to

(continued...)

retire at the full retirement age are more likely to pass the point at which they would recover the value of the benefits they would have received if they had retired earlier. However, the effect of increased longevity of present and future retirees, which would tend to lower reduction factors, can be offset by increases in the discount rate, which would tend to raise them. To some degree, this is indeed what has happened during recent years. Social Security's trustees have revised upward the assumptions in their central forecast about future "real interest rates" (the rate of interest that exceeds inflation), from 2.3% to 2.7% in 1997, 2.8% in 1998, and 3.0% in 1999.

The question that naturally arises is whether the reduction for early retirement is appropriate, not only now but also in the future when it is projected that people will be living longer. The last public estimate by the SSA was in 1995, in a memorandum that responded to an inquiry from Representative Porter regarding early retirement issues. The memorandum concluded that, under the Trustees' intermediate assumptions, for workers retiring in 1995 "the actuarially appropriate percentage of the full retirement benefit payable at age 65 that should be paid at age 62 would be 80.6% for males, 83.3% for females, and about 82% on a combined basis."[15] The memo went on to say that "the current provision for paying 80% of the full benefit at age 62 may tend to slightly discourage early retirement, not encourage it."

As mentioned above, since the 1995 memorandum both the trustees' intermediate real interest rate and longevity assumptions have increased, with presumably opposing effects. What are the appropriate actuarial reductions under these new assumptions? Using the intermediate assumptions of the trustees regarding projected real interest rates and probabilities of survival, one can construct simulations of the present values of benefits for individuals born in different years but who are otherwise similar (i.e., who have the same work histories and ages at retirement). For this purpose, the illustrative retiree is assumed to stop working at age 62, but chooses retirement at ages up to 67. (For a description of the methodology used in modeling these illustrations, see the appendix.)

Figure 1 shows the percentage of the full benefit received by workers retiring at age 62 now and in the future, comparing those that would be payable if the reduction for early retirement were truly actuarial (i.e., based on equalizing the present values of benefits taking into account the mortality rates of each cohort on a unisex basis) to those payable under current law.

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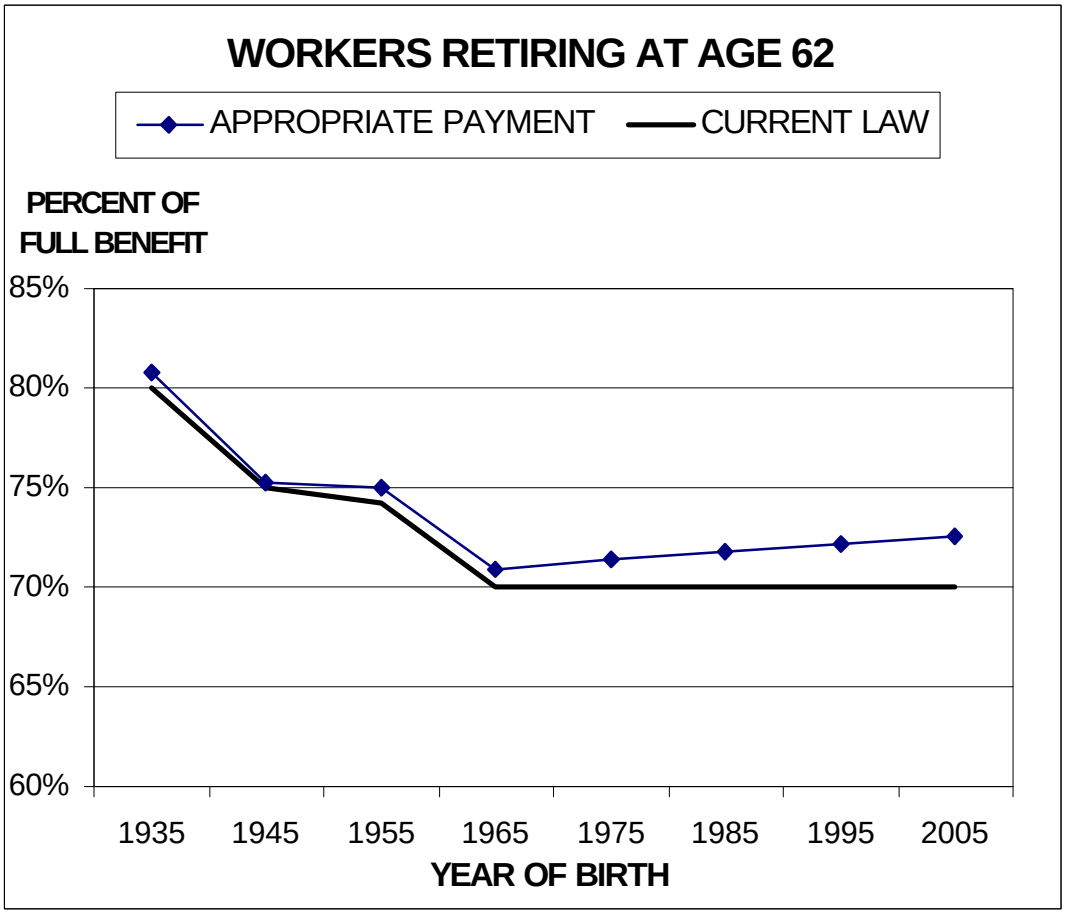
[14] (...continued)
79.5 in the 1999 report.

[15] Memorandum from Stephen C. Goss, Deputy Chief Actuary, Office of the Actuary, Social Security Administration, dated November 21, 1995. (The reduction factor is lower for women than for men because women's life expectancy is greater.)

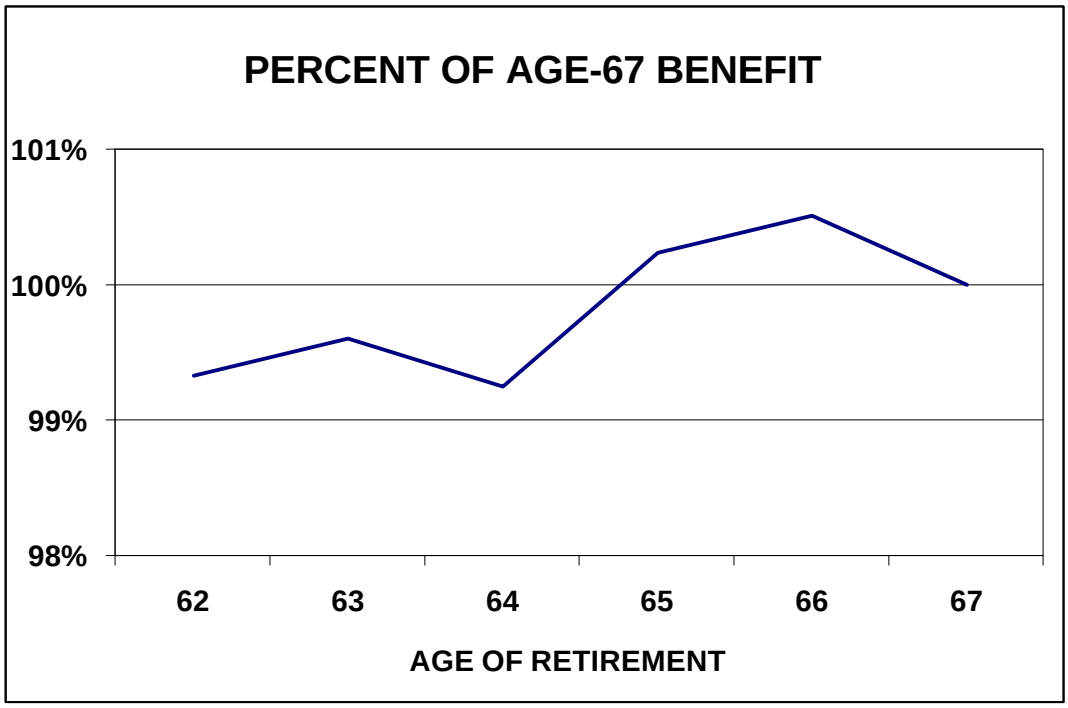
Figure 1. Appropriate Reduction of Benefits Versus Current Law



As **Figure 1** shows, on a unisex basis the reduction appears only slightly inaccurate until about 2027 (those born in 1965), and then begins to be too large. This divergence is due to longer life expectancy, which makes the value of benefits for later retirement worth more because there is a longer period in which to collect the larger benefits. By the end of the period, the difference as a percent of full benefits is about 4%. However, if viewed as the degree to which the then 30% reduction for early retirement would be inaccurate, the difference is about 8%.

Because **Figure 1** reflects retirement at age 62, the total reduction is a combination of two reduction factors – 5/9ths of 1% for the first 36 months of retirement, and 5/12ths of 1% for the next 24 months of retirement. This raises the question of what the effects are on workers retiring at other ages, especially those ages close to where the reduction factors change. For example, the incremental effect of delaying retirement when there are 36 months until full retirement age is 1/3rd higher than when there are 37 months until full retirement age (5/9ths divided by 5/12ths). To illustrate this effect, **Figure 2** compares the relationship of the present values of benefits received by workers born in 1965 (after the age 67 full retirement age is effective) retiring at ages 62 through 66.

Figure 2. Relationship of Present Values of Benefits Taken at Different Retirement Ages for Workers Born in 1965

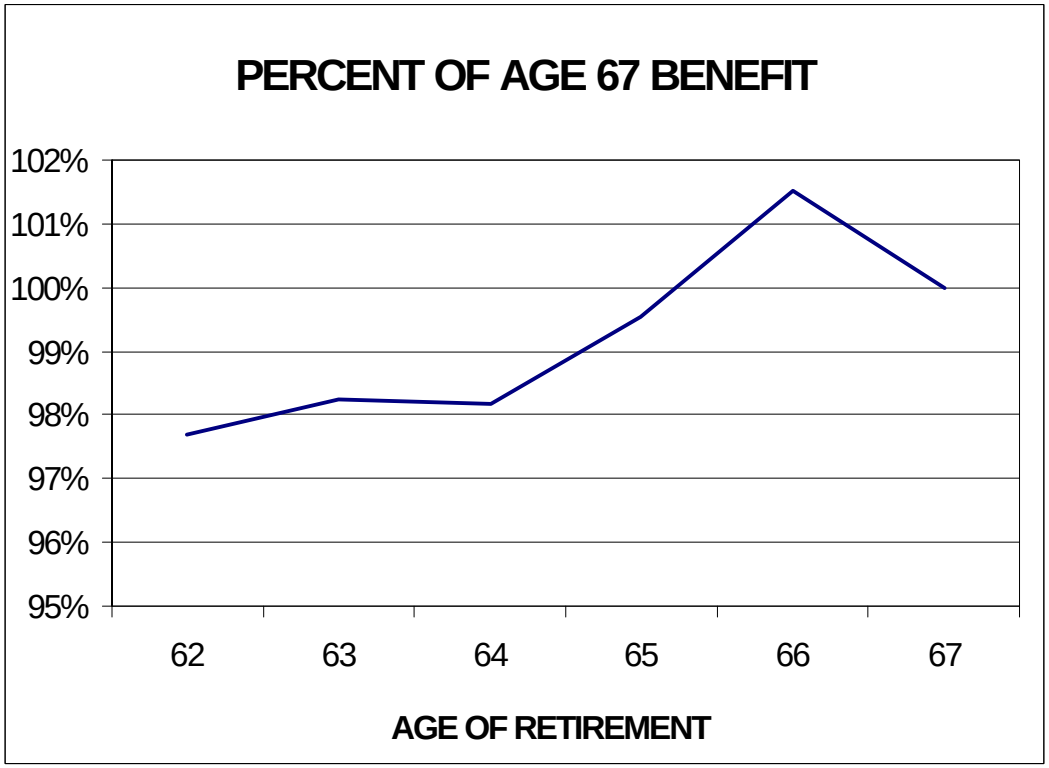


The scale of the chart is exaggerated, but it illustrates that purely on a present-value basis the most advantageous age of retirement would be age 66, while the least advantageous would be ages 62 and 64. A couple of factors cause these variations. The younger one is at retirement, the greater is the effect of a fixed rate of reduction, because it has influence over a longer period. Thus, because the reduction factors for the first 3 years before the full retirement age are constant at 5/9ths of 1%, their effect is greatest at age 64 (and least at age 66). If the reduction factors remained at 5/9ths of 1% per month for each month of retirement beyond 36 months, then retirement at ages 63 and 62 would be the least advantageous, but this effect is offset by the lower additional reduction factor (5/12ths of 1% per month) applicable to months of retirement greater than 36. At age 63, but not 62, the lower additional reduction factor more than offsets the effect of retiring at a younger age.[16]

For workers born in 1965, the magnitude of these differences is relatively small (a little over 1%), but for workers born in later years, the variations will grow due to increasing longevity. For workers born in 2005, the maximum difference will be close to 4% (see **figure 3**).

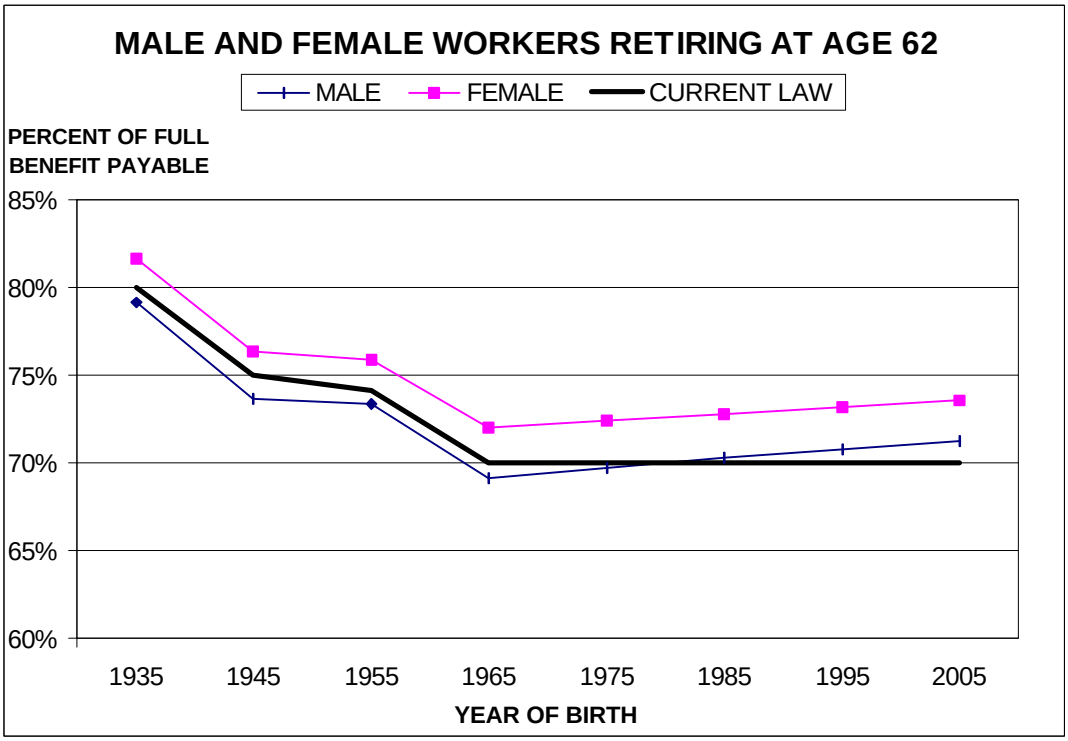
[16] It must be said that such precision is virtually impossible to specify in the law. Also, varying actuarial reductions by age would be difficult for the public to understand. Hence Congress has tended to place constant and somewhat rounded numbers into the law.

Figure 3. Relationship of Present Value of Benefits Taken at Different Retirement Ages for Workers Born in 2005



Effects of gender. As the preceding analysis shows, differences in longevity affect the calculations of appropriate actuarial reductions. Because women have longer life expectancies than men, it follows that appropriate actuarial reductions vary by sex. **Figure 4** shows the percentage of the full benefit received by male and female workers retiring at age 62 now and in the future, comparing those that would be payable if the reduction for early retirement were truly actuarial (i.e., based on equalizing the present values of benefits taking into account the mortality rates of each cohort by sex) to those payable under current law.

Figure 4. Appropriate Payment Versus Current Law by Sex



As **Figure 4** shows, the reduction in benefits for males retiring at age 62 generally is too low for much of the period, becoming nearly appropriate for those born in 1985, and too high by about 2% at the end of the period. The reduction for females is too high throughout the period, increasingly so for those born after 1965. By the end of the period, the difference amounts to about 5%. This presentation clearly implies that, in terms of maximizing lifetime benefits, it will become increasingly more disadvantageous for women to elect early retirement.

Aged and surviving spouse reductions. As mentioned earlier, this is an aspect of early retirement that seldom receives attention when proposals are made to change the eligibility age or the reduction factors for early retirement. It can be said that, if a proposal is silent on these subjects, certain inferences can be made. For example: if reductions for early retirement of the worker are increased, then those for an aged spouse would be increased in a like manner; or, since current law changes the reduction for surviving spouses by dividing 28.5% by the number of months between age 60 and the full retirement age, that practice would simply continue were the full retirement age increased further.

However, it is generally recognized that the reduction factors for aged and surviving spouses under current law are not truly actuarial.[17] At first glance it might appear that the reduction factors for spouses are too high because they are higher than

[17] Myers and Schobel, *Early Retirement Reduction*, p. 305.

for retired workers, yet both are first eligible at age 62. It seems inconsistent that people who are the same age, and hence have similar probabilities of survival, would have different reduction factors. However, in actuarial terms it makes sense for the reduction factors for spouses to be higher because the period for receiving the benefit is projected to be shorter than would be projected for a single person. In other words, because the spousal benefit ends if *either* spouse dies, the probability of survival factor is actually lower. In fact, when early retirement benefits for wives were first enacted, it was determined that the appropriate reduction at age 62 should have been 30%, rather than 25% (perhaps this accounts for the slight cost of the overall proposal at that time).

If the factors put in place in 1956 in theory are too low, they were made more so when the full retirement age was raised in 1983. Just as it did for months of retirement beyond 36, the 1983 legislation also made the reduction factors for spouses 5/12ths of 1%, obviously a change that would increase the disparity between the actuarially appropriate and actual reduction factors applicable to spouses.

For surviving spouses, the maintenance of the same reduction factor of 28.5% at age 60 as the full retirement age rises to 67 obviously will be actuarially advantageous to widows and widowers who seek benefits at the earliest possible age. To the extent that proposals to raise the full retirement age also maintain the 28.5% reduction factor, this actuarial advantage will increase.

Incentive Effects

It is widely recognized that the availability of Social Security is an important factor in workers' decisions to retire. As mentioned earlier, 60% of retiring workers do so at the first eligibility age for Social Security. This preference can be explained in large part because many workers who may wish to retire at fairly young ages cannot afford to do so until they reach the point when they can supplement their retirement income with Social Security. However, other factors influence the decision to retire, including additional economic factors (e.g., unemployment, non-Social Security wealth such as pensions and assets), health concerns, and the desire for leisure. There is extensive literature that focuses on the reasons people choose to retire.[18] The question addressed here is whether Social Security provides, or will provide in the future, purely economic incentives to retire early. In its simplest form, the question is: in terms of dollars and cents, is it disadvantageous for workers to delay retirement because any extra benefits they would receive would not be worth the additional payroll taxes they would pay?

This issue arose earlier in the discussion of whether, from the "cost-benefit perspective," current-law reductions are accurate. Because of the design of the program and the varying characteristics of workers, there is no simple answer. Some

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[18] In addition to the CBO and GAO documents cited earlier, see CRS Report 98-863, *Social Security Reform: the Potential Impact of Changing the Eligibility Age and the Earnings Test on the Decision to Retire*, by Gail McCallion.

workers, who already have a full work career (i.e., 35 years) and whose additional earnings after age 62 are equal to or at a lower level than their pre-age 62 earnings, receive no benefit from the additional Social Security taxes they pay. However, for others the additional earnings may replace years of low or no earnings, which may increase their benefits substantially. Even workers with full careers who continue to work at their job after age 62 may have their benefits increased if they receive pay raises.[19] Also, for any given value of the increase in average career earnings, the amount by which the benefit may increase depends on the level of the worker's career earnings. Social Security's benefit formula is "weighted" in favor of lower-paid workers, replacing a higher proportion of their earnings than for higher-paid workers. Thus, for a given amount of additional taxes, the additional earnings credited to a worker with low career earnings are worth more than for a high-paid worker. In addition, all else held equal, workers with dependents receive a greater value for their additional earnings than do workers without dependents. Also, currently almost three-quarters of recipients pay no federal or state income tax on their Social Security benefits. To some degree, the exchange of tax-free for taxable income may influence the decision to retire.

Nevertheless, analysts can approach the issue by constructing simulation models using such devices as aggregate worker profiles, a typical "base case," or illustrations of various scenarios. There are not many instances in the public discourse where the issue has been examined. The National Commission on Retirement Policy (NCRP) based its recommendation that the reductions for early retirement be increased on the premise that Social Security provides a disincentive for workers to delay retirement because any extra benefits they receive are not worth the additional payroll taxes they pay. However, there is nothing in the public literature that explains how they arrived at this conclusion. In terms of the effect on the system's financing, the SSA's Office of the Actuary is cited by the Social Security Advisory Board as saying that, when workers retire early, the loss of the payroll tax they otherwise would pay is approximately offset by the lower benefits they would receive from not counting additional earnings (see footnote 6). In a study on the interaction of Social Security and retirement behavior, Peter Diamond and Jonathan Gruber concluded that, while married workers with dependent spouses essentially break even, for single workers with average earnings and full work careers the higher benefits paid by delaying retirement are outweighed by foregone benefits and higher taxes (i.e., they are disadvantaged by delaying retirement).[20]

For their analysis, Diamond and Gruber constructed a "base case" of a married male worker who worked a full career at a median earnings level and has a dependent

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[19] In determining a worker's average earnings over his or her career, on which a person's Social Security benefit is based, earnings before age 60 are indexed to average earnings in the economy. Earnings after age 59 are credited at their nominal value–thus, in the oft-used example of a worker who "always earned an average wage," earnings after age 59 are higher than pre-age 60 earnings and lead to higher average career earnings, and therefore higher benefits.

[20] Diamond and Gruber, *Social Security and Retirement*, p. 454-463.

spouse 3 years younger than him who did not work and therefore does not have Social Security in her own right. They then varied this case by assuming: (1) higher earnings; (2) lower earnings; and (3) a career with periods of unemployment. They also did an evaluation of a single male worker who worked a full career at a median earnings level.

The use of the term "base case" for a retired married male worker with a fully dependent spouse is perhaps unfortunate, as it does not portray a "typical" picture. Benefits payable to "dependent" spouses age 62 and over are, on a relative basis, a small and declining part of Social Security outlays, as more and more women earn Social Security benefits as workers and therefore receive smaller or no spousal benefits under Social Security's rules that dictate that spousal benefits are payable only to the extent they exceed benefits earned as a worker.[21] As the only alternative to the base case, their table portraying a single worker probably presents a more "typical" picture.[22]

These three analyses give somewhat different impressions. The NCRP seemed to conclude categorically that it is a better deal for workers to retire early. The Diamond and Gruber study is more circumspect, showing how results are sensitive to the characteristics of illustrative workers, but a close reading could lead to a conclusion that, if one were to consider the male[23] single worker as more typical than one with a dependent spouse, in most cases it would be more advantageous for workers to retire early.[24] The statement of SSA's Office of the Actuary implies that on a system-wide basis the value of the benefits and taxes approximately offset.

A key consideration in these analyses is that the employer share of the payroll tax is counted in the additional tax paid. This makes perfect sense for the actuaries'

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[21] Of 27.8 million retired workers in 1999, only about 2.8 million (about 10%) had fully dependent spouses. The percentage drops rapidly in the future, reaching about 5 % in 2020. In terms of the impact on the program, the cost of fully dependent aged spouses currently is about 0.35% of taxable payroll, about 6% of the cost (6.25% of taxable payroll) of retired worker benefits.

[22] Probably the most representative portrayal would be of a two-earner couple. Most workers are married when they retire. Because one spouse will almost always have higher worker benefits than the other, the value of the couple's benefits will be augmented by the survivor benefits payable should the higher benefit worker die first.

[23] If a female worker were represented, presumably later retirement would be portrayed more favorably because of her longer life expectancy, as discussed earlier. Including female workers is important because of the large and increasing number of women who work.

[24] Although the article as a whole explores this sensitivity, under the heading "conclusions" the only categorical statement is that, on average, there is approximate balance between taxes and benefits for married men with nonearning spouses. The article is cited as the basis for a statement in the GAO report, *supra*, that individuals who work a few years beyond the early retirement age are fairly compensated for the value of the taxes they pay. Because the Diamond and Gruber "base case" is unrepresentative of the Social Security population, the applicability of this statement is limited.

analysis because the employer share of the tax is credited to the Social Security trust funds. The Diamond-Gruber and NCRP analyses follow the axiom among economists that employees bear the cost of the employer share in the form of foregone wages – thus in theory both shares should be included in the computation of additional payroll taxes the worker pay. This logic would imply that all costs borne by the employer would factor into a worker's decision about when to retire. However, whether this is really a consideration in the decision of whether to continue to work may be problematic. Do workers in fact assess the value of a tax they do not pay directly and do not see on their pay stub? To take an extreme example, for federal workers covered by the Civil Service Retirement System, to include the employer share of the contribution to their retirement contribution would raise the "cost" of not retiring by 17.2% of pay.

It could be posited that workers consider only the net value of their continued work compared to the value of the Social Security benefit they will receive. If they are cognizant of the employer's share of the tax, to them it may seem more like a fringe benefit that accompanies continued work. In any event, including or excluding the employer's share of the payroll tax could make a large difference in evaluating whether Social Security encourages or discourages early retirement.

As this discussion indicates, currently there is not a clear answer to this question, since so much depends on the characteristics of the workers portrayed and the assumptions used. Running various examples through the CRS model described in the Appendix does seem to show that, even if the employer share of the payroll tax is excluded, from a purely economic perspective it is more advantageous for most workers to retire early.

However, it can be questioned whether this perspective, which views when to retire as simply an investment decision, is meaningful. As an abundance of research shows, the decision to retire hinges much more on the individual's health, desire for leisure, other available income, etc. Even if some people do base their decision to retire on purely economic grounds, it may be unlikely that they view comparing benefits at different retirement ages as a matter of investment and therefore a function of what interest rate their payroll taxes or foregone benefits would earn, or their probability of survival until a later age.[25] What if workers were asked the question "in terms of constant dollars, would you rather have a benefit worth $200,000 at age 65

[25] Not much is known about how workers assess their probability of survival. Given that so many workers choose early retirement despite the guidance from SSA that understates the break-even point between early and late retirement, it seems they do not rate the probability of living well into old age highly. Actually, from an economic "rational person" perspective, in theory they should probably assume even longer life expectancies than those shown in the life tables. The life tables project mortality for an entire cohort. Of that cohort, a certain number of individuals receive Social Security disability benefits. Because the disabled have shorter life spans than the nondisabled, the life expectancies of those seeking only retirement benefits therefore are to some degree higher than those portrayed in the life tables.

or one worth $190,000 at age 62?"[26] Such a representation in most cases would favor later retirement. Also, increasing longevity is a continuing long-term trend, whereas interest rates and inflation seem more transient and unknowable. It may be that they would be more amenable to seeing a comparison of the benefits they would receive at early versus full retirement expressed in constant dollars. Because the discount between benefits at early versus full retirement would be only at the rate of inflation, rather than at the higher nominal value of interest rates, such a comparison would show that early retirement is disadvantageous.

Effect of the Earnings Test on Early Retirement. Many retirees who retire before the full retirement age continue to work. For those under the full retirement age who earn above a certain sum (the "exempt amount"), the law requires that their Social Security be reduced. With modifications, this "earnings test" has been in place since the beginning of the program, but, effective in 2000, it no longer applies to individuals when they attain the full retirement age.[27] For recipients below the full retirement age, the law provides that recipients who will not attain the full retirement age in 2000 may earn up to $10,080 a year in wages or self-employment income without having their benefits affected. For earnings above these amounts, recipients lose $1 of benefits for each $2 of earnings. There is a different reduction factor and exempt amount in the year recipients attain the full retirement age. In 2000, these individuals can earn up to $17,000 a year in the months before they attain the full retirement age. For earnings above these amounts, they lose $1 in benefits for each $3 of earnings. The exempt amounts rise each year at the same rate as average wages in the economy (however, through 2002 the exempt amounts for those who attain the full retirement age in that year will rise to specific amounts set in the law). The test ceases to apply in the month a recipient attains the full retirement age.

The elimination of the earnings test for individuals at or above the full retirement age was enacted very recently. However, there also is continued interest in repealing the test entirely.

There is direct interaction between the earnings test and the reduction for early retirement. The earnings test is administered by withholding the payment of benefits for however many months is necessary to achieve the appropriate reduction. When the affected individual reaches the full retirement age, his or her benefit is recomputed by reducing the number of months of reduction by the number of months in which a benefit was fully or partially withheld. For example, if a worker retired exactly at age 62 in 1997, his or her initial benefit received an reduction of 20%, reflecting 36 months of early retirement. If he or she earned enough from work after retirement to cause 18 months of benefits to be withheld, at age 65 the benefit would be

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[26] These figures represent present values at retirement but adjusting the foregone benefits for inflation rather than for interest. This has the effect of lowering the value of early retirement compared to later retirement because the inflation rate is assumed to be three percentage points lower than the interest rate.

[27] For more on the earnings test and proposals to liberalize or eliminate it, see CRS Report 98-789 *Social Security: Proposed Changes to the Earnings Test*, by Geoffrey Kollmann.

recomputed, so that the reduction would become 10%. Because the loss of benefits and the reduction both correspond to numbers of months, the symmetry produces an actuarial offset, so that it is said that, in terms of lifetime benefits, the individual is no worse off by having his or her benefit withheld because of the earnings test.

This interaction so far has been a significant factor in forestalling efforts to liberalize or repeal the earnings test for those under the full retirement age. First, there is the argument that those affected by the test suffer no harm because of the recomputation of their benefits at the full retirement age. Second, there is concern that the lure of receiving full Social Security benefits as well as their earnings would induce virtually everybody to file for benefits at their earliest eligibility age, which would lead to permanently reduced benefits that would lead to more instances of retirees with inadequate incomes as they stop working and their other sources of income are depleted or decline in value.

From a strict actuarial point of view, it makes no difference whether or not the earnings test is repealed, so long as the reduction factors are accurate. The argument really is about whether workers will be myopic or make poor choices, such as consuming all their additional income from work rather than rather than saving part of it. However, if the repeal of the earnings test is in the context of other reforms, then other issues emerge. For example, proposals such as that of the NCRP and in S. 1383, S. 2085 and S. 2086, while eliminating the test, also increase the reduction factors for early retirement. The changes in the reduction factors reflect inherent goals, which are to provide moneysworth for the additional taxes workers pay if they delay retirement and to provide a disincentive to retire early. To the extent that these incentives change behavior so that people work longer, the financing of the program is enhanced, and workers can be better off (or no worse off). To the extent that people choose not to modify their behavior or have compelling circumstances to retire as soon as possible, the increase in reduction factors by definition will be actuarially unfair. This is not to say that changing reduction factors to meet policy objectives rather than to achieve actuarial balance is necessarily unreasonable. However, there have been times when the actuarial profession has expressed concern about changing the factors for non-actuarial reasons.[28] Many would say that repealing the earnings test while increasing the reduction factors is contradictory, as one measure encourages filing for early retirement benefits and the other discourages it. They also might say it is doubtful that workers, in order to receive a better deal on the payroll taxes they pay, would delay retirement rather than to collect full Social Security benefits in addition to their earnings.

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[28] When the Reagan Administration in 1981 proposed to increase the reduction for early retirement at age 62 from 20% to 45%, the proposal was almost immediately rejected by Congress as precipitous and likely to produce inadequate benefits. However, the concern expressed by actuaries was that proposal was inherently inequitable because wealthy people could afford to live off other sources of income until age 65 whereas other workers might not be able to afford to do so. Myers and Schobel, *Early Retirement Reduction,* p. 302.

Conclusion

In the debate about Social Security reform, raising the full and/or the early retirement age is one of the foremost options. However, the ramifications of reform on early retirement have not received much attention, in part because policy options regarding early retirement do not significantly affect the financing of the program.

This paper has attempted to address some of the issues and implications involved in assessing early retirement in Social Security reform. Among its findings are that the concept of "actuarial fairness" is not consistent and not well understood, especially by the public who receive only rudimentary guidance on the implications of when they retire. However, despite the many changes in demographic and economic factors since early retirement was put in place in 1956, on a unisex basis for workers the reduction factors have retained a fairly high degree of accuracy, but, as is consistent with their original design, the reduction factors for spouses are too small. In the future, all else held equal the effect of projected increases in longevity will tend to make reduction factors too large, particularly for women. Taken by itself, this clearly implies that, in terms of maximizing lifetime benefits, electing early retirement will be especially disadvantageous for women. Because these conclusions are based on the assumptions of the 2000 Trustees Report, the reader should be aware that if, as some demographers have suggested, longevity will improve faster than the Trustees assume, then the reduction factors will become too large more rapidly. Finally, viewed purely as an investment decision (i.e., comparing the present values of benefits to additional payroll taxes paid), it is probable that under current law it is more advantageous to retire early, but this conclusion must be tempered by the high degree of variability in workers' circumstances, the assumptions involved, and the more important other reasons workers have to retire.

Appendix

Description of Model Used in Determining "Appropriate" Actuarial Reductions

Over the years the Congressional Research Service has developed a computer model that does case simulations of workers' Social Security benefits. Computations of benefits are based on current law and the underlying economic and demographic projections are those contained in the Alternative II assumptions of the latest report of the Social Security Board of Trustees. The computations of benefits and taxes can be expressed in current and constant dollars and can be used to show such "moneysworth" features as internal rates of return, amount of time to recover the value of taxes paid, the ratio of contributions to benefits, etc.

The model can be modified to reflect the features of various reform plans so the effect on present and future recipients' benefits and taxes can be evaluated, including the value and effect of individual accounts. It also can be modified to show the effect on individuals of changes in their characteristics, in underlying economic and demographic assumptions, or in underlying baselines on which Social Security financing is based. However, it a case simulation model and does not do cohort analyses or stochastic modeling.

A crucial aspect in comparing taxes and benefits is the computation of present values. The model does so by constructing streams of payment of taxes and benefits that accrue a specified rate of interest and include cost of living adjustments for benefits. These streams are adjusted by the probability that a particular worker will survive to each year. These probabilities are based on the mortality assumptions contained in cohort life tables on which the alternative II demographic projections are based. We choose to use cohort, rather than period, life tables because they reflect expected improvements in mortality.

To compute the "appropriate" actuarial reductions shown in this report, first the initial monthly benefit was calculated for workers born in a certain year who retire at age 62. Their initial monthly benefit was adjusted thereafter by cost of living adjustments and by the probability of their surviving to each subsequent age. A present value was calculated by determining the amount of money that would have to be invested at the time of retirement to finance this stream of benefits assuming a real interest rate of 3%. The next calculation was to compute the present value of benefits were the worker to retire later. In this calculation, the probability of survival was kept to that applicable for the cohort in the year of attainment of age 62, and present value of benefits were discounted to age 62. Under the conventional definition, the actuarial reduction would be "appropriate" if the two present value amounts were equal. If they diverged, then the appropriate reduction would be the factor that applied to the benefit at age 62 would produce the same present value as a benefit taken at later ages.