

# ARE SOCIAL SECURITY'S ACTUARIAL ADJUSTMENTS STILL CORRECT?

BY ALICIA H. MUNNELL AND ANQI CHEN\*

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## Introduction

The option to claim Social Security benefits at any age from 62 to 70 – with actuarial adjustments designed to keep lifetime benefits constant for an individual with average life expectancy – is a key feature of the program. The actuarial adjustments, however, are decades old and do not reflect improvements in longevity or other important developments over that time.

The option to claim early was introduced over 60 years ago, when Congress set 62 as the program's Earliest Age of Eligibility. Those claiming at 62 receive 20 percent less in monthly benefits than if they had waited until 65 to claim. The option to claim between 65 and 70 on an actuarially fair basis stems from the 1983 Social Security amendments, which gradually increased the annual “delayed retirement credit” from 3 percent to 8 percent.

Much has changed since these actuarial adjustments were introduced: interest rates have declined; life expectancy has increased; and longevity improvements have been much greater for higher earners

than lower earners. In the wake of these developments, this *brief* explores whether the historical adjustments are still actuarially correct.

The discussion proceeds as follows. The first section provides a brief history of the Social Security benefit adjustments. The second section explains how increasing life expectancy and declining interest rates would call for smaller reductions for early claiming and a smaller delayed retirement credit for later claiming. The third section explores the extent to which existing adjustments deviate from actuarially fair magnitudes, finding that the reduction for early claiming – initially about right – is now too large, while the delayed retirement credit – initially too small – is now about right. The fourth section moves from the average worker to explore the impact of the actuarial adjustments on workers at various earnings levels given the disparity in longevity improvements. The final section concludes that the adjustment factors now favor delayed claiming and, as a result, increasingly benefit higher earners.

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\* Alicia H. Munnell is director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College's Carroll School of Management. Anqi Chen is assistant director of savings research at the CRR. The authors wish to thank Tiffany Bosely, Karen Glenn, and Stephen Goss for helpful comments.

## History of Social Security Benefit Adjustments

The original legislation creating the Social Security program did not allow workers to claim benefits before the program's eligibility age of 65 and provided no incentive to claim later. The flexibility to claim at any age from 62 to 70 emerged in two spurts of legislation roughly 20 years apart.

### *The Ability to Claim Before 65*

In 1956, Congress gave women the option to retire as early as 62, albeit on a reduced monthly benefit to take into account the additional years over which they would receive benefits. The new option was designed to allow married women, who were typically the younger member of the couple, to retire and claim benefits at the same time as their husbands.<sup>1</sup> Congress made the option available to all women, so as not to discriminate against unmarried women. Congress then extended this option to men in 1961, during a recession that made early retirement an attractive policy response.

The size of the reduction in the monthly benefit for early claimers is intended to "closely approximate an 'actuarial-equivalent' basis, so that no additional cost to the system arises on account of early retirement."<sup>2</sup> That is, for a woman with average life expectancy, Congress intended the cost of lifetime benefits to be much the same whether she claimed at 62 or 65. Based on interest rates at the time, the benefit reduction factor for claiming at 62 was determined to be 20 percent – or roughly 6.7 percent per year.<sup>3</sup> The same adjustment factor was applied to men, despite differences in life expectancy.<sup>4</sup>

### *An Incentive to Claim After 65*

The ability to claim after 65 on an actuarially fair basis was adopted later and implemented more gradually. A delayed retirement credit was introduced in 1972 at 1 percent per year up to age 72 (later reduced to age 70), increased to 3 percent per year by the 1977 Amendments, and scheduled by the 1983 Amendments to increase gradually to 8 percent per year for those reaching 65 in 2008. The first column of Table 1 shows what the actuarial adjustment factors

TABLE 1. EFFECT OF CLAIMING AGE ON RETIREMENT BENEFITS, BY FULL RETIREMENT AGE

Age	Full Retirement Age		
	Age 65	Age 66	Age 67
62	0.800	0.750	0.700
63	0.867	0.800	0.750
64	0.933	0.867	0.800
65	<b>1.000</b>	0.933	0.867
66	1.080	<b>1.000</b>	0.933
67	1.160	1.080	<b>1.000</b>
68	1.240	1.016	1.080
69	1.320	1.240	1.016
70	1.400	1.320	1.240

Note: While the delayed retirement credit (DRC) was between 3.0 percent and 6.5 percent when the Full Retirement Age was 65, for simplicity, the factors in this table reflect the ultimate 8-percent per year DRC.

Source: U.S. Social Security Administration (SSA) (2010).

would have looked like at ages 62-70 if nothing else had changed – an annual reduction of 6.7 percent for three years before 65 and an annual increase of 8 percent for each year after 65.

### *Impact of Increase in Full Retirement Age*

The schedule for early and delayed claiming also has been impacted by the gradual increase from 65 to 67 in the Full Retirement Age (FRA), the age at which workers receive their base benefit amount as determined by their work and earnings history. In Table 1, this base benefit is set equal to 1.000.<sup>5</sup> The changes in the benefit factors as the FRA increases largely reflect moving this reference point from 1.000 for age 65 to 1.000 for age 66 and then 67. As before the rise in the FRA, benefits are reduced by 6.7 percent annually for three years before the FRA and increased by 8 percent for each year after the FRA. In addition, benefits are reduced by 5 percent per year if claimed more than three years before the FRA. These reductions mean that someone retiring at 62 will continue to receive 80 percent of the age-65 benefit. Thus, despite a lot of changes, the actuarial adjustment factors have remained constant over several decades.

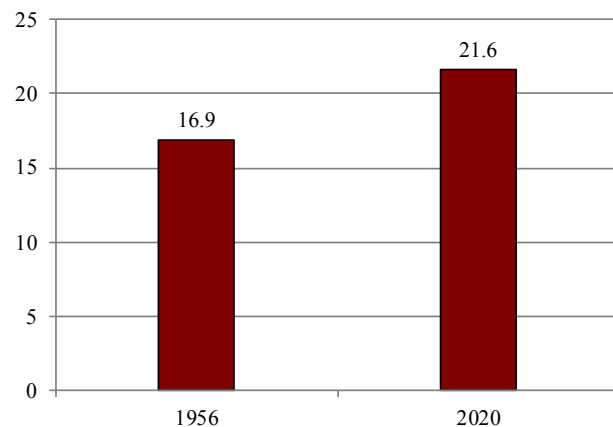
## Rising Life Expectancies and Declining Interest Rates

While the benefit adjustment factors have not changed in decades, longevity has improved and interest rates have declined. These trends would be expected to affect the actuarial fairness of the adjustments.

### *Life Expectancies*

Increases in longevity mean that people receive benefits for a longer period of time, so the percentage increase in lifetime benefits from early claiming – without an actuarial reduction – is smaller. For example, average life expectancy for a woman at 65 is now 21.6 years – about five years longer than in 1956 (see Figure 1).<sup>6</sup> In 1956, a woman who claimed at 62 and collected benefits for three additional years – without any adjustment – would have increased her lifetime benefits by about 18 percent (3.0/16.9).<sup>7</sup> Today, with life expectancy at 21.6 years, participants who claim at 62 instead of 65 would increase their lifetime benefits by 14 percent (3.0/21.6). This smaller percentage increase suggests that a smaller reduction for early claiming would be required to keep costs constant across claiming ages.

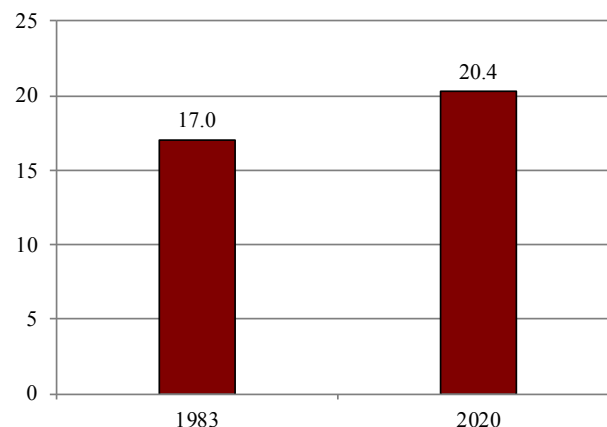
FIGURE 1. FEMALE COHORT LIFE EXPECTANCY AT AGE 65, 1956 AND 2020



Source: SSA (2019a).

In terms of benefit increases, longer life expectancies would call for a smaller delayed retirement credit. In 1983, when the scheduled increase in the delayed retirement credit was enacted and life expectancy was 17.0 years at age 65 (see Figure 2), delaying claiming from 65 to 70 – without any adjustment – would have resulted in a 30-percent decline in benefits (5.0/17.0). Today, with life expectancy at 20.4 years, a similar delay would reduce benefits by only 25 percent (5.0/20.4). Thus, all else equal, the increase in life expectancy would require a smaller delayed retirement credit.

FIGURE 2. UNISEX COHORT LIFE EXPECTANCY AT AGE 65, 1983 AND 2020



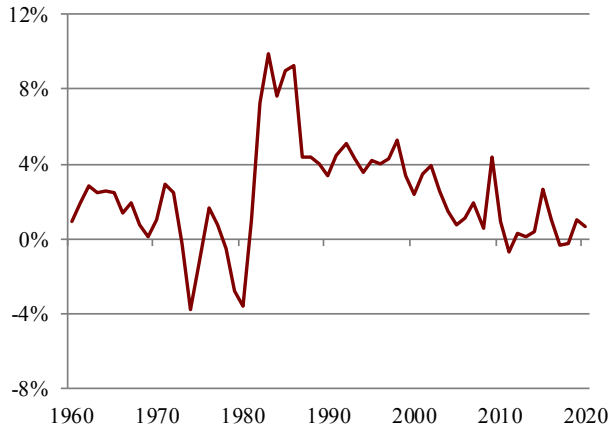
Note: The calculation is the average of cohort life expectancy for men and for women.

Source: SSA (2019a).

### *Interest Rates*

The process of establishing actuarial adjustment factors is more complicated, however, because the cost of lifetime benefits depends on interest rates as well as life expectancy. Think of the actuarial cost as the amount the government would need to put aside today to meet the cost of future benefits. This amount depends on the interest that the government could earn on those assets. The interest rate, as measured by the rate for the special-issue bonds held by the Social Security Trust Fund, is relatively close to rates in the mid-1960s but has declined sharply since the mid-1980s (Figure 3 on the next page).<sup>8</sup>

FIGURE 3. REAL INTEREST RATES ON SPECIAL ISSUE TREASURY BONDS, 1960-2020



Source: SSA (2019a).

A decline in the interest rate increases the cost of benefits claimed at any age – that is, it increases the amount that the government would have to put aside at 62 for benefits claimed at both 62 and 65. But, because the rate decline affects interest on larger amounts in the case of later claiming, it increases the cost of benefits paid to those who claim at 65 more than to those who claim at 62. Thus, to keep it actuarially fair, the interest rate effect on early claiming would call for a slight reduction in the penalty for early claiming, given that real interest rates in 2020 are only slightly lower than they were in the 1960s.

In terms of delayed claiming, the issue is similar. A lower interest rate increases the cost of benefits beginning at both 65 and 70, but it increases the cost of benefits that begin at 70 more than those at 65. Thus, the interest rate effect would call for a smaller delayed retirement credit.

In short, longer life expectancy and lower interest rates work in the same direction. In both cases, reducing the penalty for early claiming and the reward for later claiming would better align the costs of early and late claiming.

## How Far Off Are the Benefit Factors?

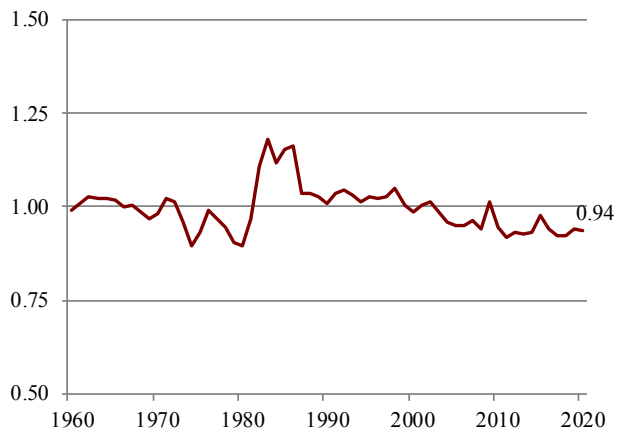
Evaluating the magnitude of the benefit factors requires comparing the cost of lifetime benefits for the age-62 claimant to the cost for the age-65 claimant. Consider the following expression in which  $r$  is the

interest rate,  $s_a$  is the probability of a person surviving to age  $a$ , and  $SSB_{a,c}$  is the estimated average Social Security benefit for claiming at age  $c$ . The cost of lifetime Social Security benefits for a person who claims at a given age – expressed in present discounted value terms – is:

$$\sum_{a=62}^{120} \frac{s_a SSB_{a,c}}{(1+r)^{a-62}}$$

If the costs to the government of claiming at 62 and 65 are equal – that is the ratio of the two costs is 1.0 – then the adjustment is actuarially fair. Figure 4 shows that the ratio of age 62 costs to age 65 costs was close to 1.0 in 1960, fluctuated significantly in the 1970s and early 1980s, and then declined steadily from the mid-1980s to the present. In 2020, the ratio is expected to be 0.94, which means that the cost of benefits for the early claimant is only 94 percent of the cost of benefits for the individual who claims at 65.<sup>9</sup> The implication is that the reduction for early retirement is too large and that reducing it would bring the costs at 62 and 65 closer together.

FIGURE 4. RATIO OF COST OF LIFETIME BENEFITS CLAIMED AT 62 TO COST OF BENEFITS CLAIMED AT 65

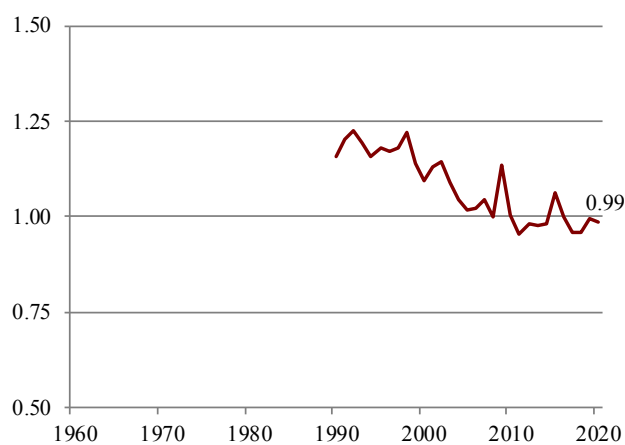


Sources: Authors' calculations using data from SSA (2019a, c).

The exercise was repeated for the delayed retirement credit. The calculation is hypothetical because 1) the full 8-percent delayed retirement credit was not available until 2008, and 2) the FRA was increasing from 65 to 67. For simplification, the calculation assumes an 8-percent delayed retirement credit from 1990 on and no change in the FRA over the 1990-2020

period. The results in Figure 5 show that initially the cost to the government of an individual claiming at 65 significantly exceeded that of an individual claiming at 70. In other words, the delayed retirement credit of 8 percent was too small to equalize the costs of claiming at 70 versus 65. Indeed, Robert Myers, the former chief actuary of Social Security, characterized 8 percent as “not much less than the true actuarial equivalent (about 9 percent).”<sup>10</sup> As life expectancy has increased and interest rates have declined, the costs to the government of an individual claiming at 65 and at 70 have narrowed so that today the ratio is 0.99.

FIGURE 5. RATIO OF COST OF LIFETIME BENEFITS CLAIMED AT 65 TO COST OF BENEFITS CLAIMED AT 70



Note: Assumes an 8-percent delayed retirement credit was available from 1990 on and the FRA remained at 65.  
Sources: Authors’ calculations using data from SSA (2019a, c).

The key takeaway from this analysis is that, for the individual with average life expectancy, the reduction for early claiming is too large and the delayed retirement credit is about right.<sup>11</sup> The question is whether these conclusions apply across the earnings spectrum.

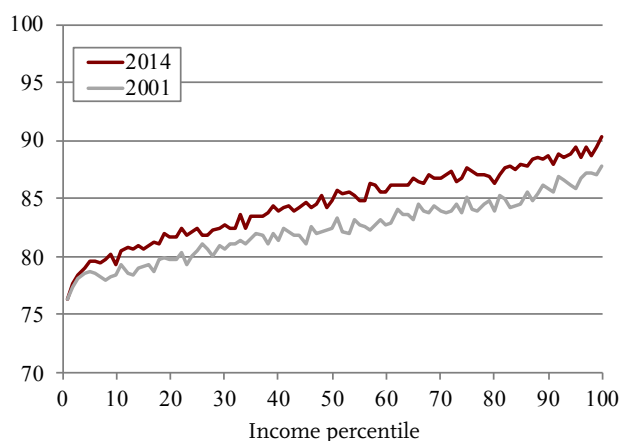
## Variation by Earnings Groups

The impact of the benefit adjustments by earnings status depends on two factors: life expectancy and claiming behavior.

Life expectancy has always varied by earnings. Those with more money tend to live longer. Moreover, in recent decades, higher earners have enjoyed most of the *gains* in life expectancy. Both these facts

are shown in Figure 6. For a given year, life expectancy is much higher for those above the 90<sup>th</sup> percentile of the income distribution than for those below the

FIGURE 6. LIFE EXPECTANCY BY INCOME PERCENTILE, 2001 AND 2014

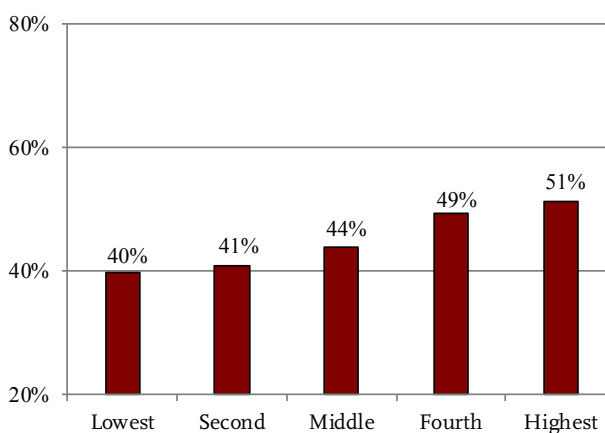


Source: Authors’ calculations from Chetty et al. (2016).

10<sup>th</sup> percentile. And the fact that the red line (2014) is steeper than the gray line (2001) means that the differences between high- and low-income individuals have increased.

In addition to living longer, higher earners are also more likely to claim later than average (see Figure 7).

FIGURE 7. SHARE OF WORKERS WHO CLAIM AT OR AFTER THEIR FRA, BY LIFETIME EARNINGS QUINTILE, 2017



Source: Authors’ calculations from SSA (2019d).

Putting life expectancy and claiming patterns together with the evidence on the magnitude of the adjustments leads to two levels of conclusions. At the simplest level – under the current adjustments – lower earners claim early and are overcharged for that privilege, and higher earners claim later and are rewarded roughly correctly. These simple results, however, substantially understate the advantages for higher earners. The evaluation of the adjustments presented above was based on the life expectancy of the average worker. If the assessment had been based on the longer and increasing life expectancy of higher earners, the delayed retirement credit should be smaller than the current 8 percent to equalize the cost of early versus late claiming.

## Conclusion

The ability of workers to claim their Social Security benefits at any age between 62 and 70 has evolved over decades. The goal has always been to ensure that the costs to the system, for workers with average life expectancy, were not affected by the age at which they claimed. To keep the costs equal, benefits claimed early need to be reduced to reflect the increase in years of benefit receipt, and benefits claimed later need to be increased to reflect the fewer years.

In the case of the average worker, the extent to which the adjustments – enacted decades ago – remain actuarially fair depends on life expectancy and interest rates. Increases in life expectancy would argue for smaller reductions for early claiming and a smaller delayed retirement credit for later claiming. A decline in interest rates, which increases the costs to the system of later claiming, would also argue for smaller adjustments. The analysis presented in this *brief* shows that the reduction for early claiming is too large, while the delayed retirement credit – initially too small – is now about right.

The fact that higher earners live longer and claim later adds a distributional consideration to these findings. If the delayed retirement credit were based on the life expectancy of those who use it, it should be smaller than the current 8 percent to equalize the cost of early versus late claiming. Thus, the current adjustments, both between 62 and 65 and between 65 and 70, favor delayed claiming. As a result, they increasingly favor higher earners.

## Endnotes

1 *The 1948 Advisory Council Report on Social Security* recommended lowering the age that women could start receiving benefits to 60.

2 Myers (1993).

3 For administrative convenience, the benefit reduction for early retirement was set at 5/9 of 1 percent for each month a participant claimed before 65 (5/9 percent per month x 36 months = 20 percent).

4 Duggan and Soares (2002).

5 The base monthly benefit – the Primary Insurance Amount (PIA) – is calculated by applying a progressive formula to the monthly average of the highest 35 years of earnings over a worker’s career.

6 The mortality data used in determining Social Security’s current actuarial reductions for early claiming excluded individuals who were already receiving Social Security disability benefits (who tend to have lower life expectancy). As a result, life expectancy estimates from these data are somewhat higher than the life expectancy data for the general population cited in this *brief*. See Goss (1985).

7 In 1956, cohort life expectancy at 65 was 13.1 years for men and 16.9 years for women. See U.S. Social Security Administration (2019a).

8 The special-issue bonds are only available to the Trust Fund, have a duration between 1 and 15 years, and can always be redeemed at par. See U.S. Social Security Administration (2019b) for the interest rates earned on these bonds. An alternative rate would be the long-run interest rate assumptions used in the annual *Social Security Trustees Report*. Long-run interest rate assumptions are less volatile but market interest rates, as used in the analysis, are useful in conveying the current experience of retirees approaching retirement. Both methods yield similar results.

9 Two prior CRR studies (Jivan, 2004 and Munnell and Sass, 2012) found that the ratio of age-62 costs to age-65 costs was slightly below 1.0. These effects have become more salient today given the sustained low-interest rate environment.

10 Myers (1993).

11 These results suggest that, under the current adjustments, it is beneficial for an individual with average life expectancy to delay claiming. This finding is consistent with Shoven and Slavov (2014).

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## Contact Information

Center for Retirement Research  
Boston College  
Hovey House  
140 Commonwealth Avenue  
Chestnut Hill, MA 02467-3808  
Phone: (617) 552-1762  
Fax: (617) 552-0191  
E-mail: [crr@bc.edu](mailto:crr@bc.edu)  
Website: <https://crr.bc.edu/>

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