

# INCENTIVIZING DELAYED CLAIMING OF SOCIAL SECURITY RETIREMENT BENEFITS BEFORE REACHING THE FULL RETIREMENT AGE

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*Claiming Social Security retirement benefits before the full retirement age (FRA) results in permanently lower benefits. Therefore, delaying claiming is often considered the best decision economically. We examine a number of novel changes aimed at encouraging individuals to delay claiming in the months and years before reaching their FRA, such as changing the early retirement reductions, paying lump sums, rewarding work with bonuses, instituting a lottery, and reforming the earnings test. We use Modeling Income in the Near Term, Version 6 data to determine the socioeconomic characteristics of individuals who claim at various ages and analyze one of the incentives to encourage delayed claiming: changing the early retirement reductions. We model the incentive first with no assumed behavioral response, and then we assume a 1-year delay in benefit claiming. We find that the delay in claiming would result in larger increases to both monthly and lifetime benefits than would the incentive alone.*

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## Introduction

Among Social Security retired-worker beneficiaries, nearly half claim their retirement benefits as early as possible, and almost all of them claim at some point before their full retirement age (FRA) (Muldoon and Kopcke 2008; Song and Manchester 2007a). Because Americans are living longer but retiring earlier (Burtless and Quinn 2002; Wise 1997), often with a lack of personal retirement savings, the timing of benefit claiming can be crucial to financial well-being in retirement. Because claiming benefits before the FRA results in permanently reduced benefits, many researchers argue that delaying claiming is often the best decision economically (Coile and others 2002; Shoven and Slavov 2013). In fact, delaying the claiming of Social Security retirement benefits is now recognized as an important way to enhance retirement security (see, for example, Munnell and Sass (2008)).

Following the notion that delaying benefit claiming can aid in the financial security of older Americans,

the National Commission on Fiscal Responsibility and Reform (2010)—also known as the Simpson-Bowles Commission—urged the Social Security Administration (SSA) to provide information to the public “with an eye toward encouraging delayed retirement” and to do so by considering “behavioral economics approaches.” In this article, we explore a number of behavioral strategies aimed at incentivizing individuals to delay claiming.

SSA’s current structure to incentivize delayed retirement benefit claiming involves decreasing monthly benefits if they are claimed before the FRA and increasing monthly benefits if they are claimed

### Selected Abbreviations

DRC	delayed retirement credit
EEA	early eligibility age
FRA	full retirement age

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### Selected Abbreviations—Continued

MINT6	Modeling Income in the Near Term, Version 6
RET	retirement earnings test
SSA	Social Security Administration

after the FRA; however, the size of the annual increases in benefits after the FRA is larger than the size of the annual decreases in the months before the FRA. That incentive structure results in a number of interesting distributional outcomes and presents an opportunity to introduce policy changes that may affect those outcomes.

In keeping with the finding that most individuals claim their benefits before their FRA (with many claiming as early as possible), making the incentives to delay claiming in the months before the FRA more attractive could affect a far greater portion of the retirement-age population than do current incentives. As such, the ideas presented in this study aim to shift that reward structure so that individuals are more incentivized to delay claiming in the months and years *before* reaching their FRA. While delaying claiming benefits typically refers to claiming them sometime after the FRA, we highlight ways to encourage individuals to delay claiming beyond *when they would have chosen to claim otherwise*, which, for most individuals, is sometime before the FRA. Of course, those incentives would be the most effective for individuals whose claiming decision is not affected by other factors, such as poor health or job loss, which can force people to retire earlier than they would have otherwise.

In this article, we first describe the design of the current benefit-claiming incentive structure. Next, we present the historical context that led to this existing structure. We then provide data on the number and characteristics of people who claim benefits at various ages. Using that data, we describe the potential usefulness of better targeting the claiming-related incentives to persons who start receiving benefits before their FRA. Next, we present a number of novel ideas, based on psychological and behavioral research, intended to incentivize workers to delay claiming in the years before their FRA. Finally, we use Modeling Income in the Near Term, Version 6 (MINT6) projections to examine how potential behavioral responses to one of these ideas could affect the retirement outcomes of various groups.

### Current-Law Description

Under current law, retirees can receive their full, unreduced monthly benefit upon reaching their FRA. For individuals born after 1942, the current FRA varies from age 66 to 67, based on year of birth.<sup>1</sup> The earliest age at which individuals can start receiving retirement benefits is 62, also called the early eligibility age (EEA). For each month that benefits are received before the FRA, those benefits are permanently reduced by early retirement reduction factors. For benefits started in the 3 years (36 months) before the FRA, the monthly reduction is 0.555 percent, or 6.7 percent a year (Table 1). For benefits started more than 3 years before the FRA, the monthly reduction is 0.416 percent, or about 5 percent a year. For example, assume an individual has an FRA of 66 and an unreduced monthly benefit of \$1,000. If that person starts receiving benefits 4 years (48 months) early at the EEA, his or her monthly benefit would be reduced by about 20 percent for the first 3 years (combined) and an additional 5 percent for the fourth year, for a total reduction of about 25 percent, reducing the monthly benefit by \$250 to \$750.

If, however, an individual waits until after reaching his or her FRA to claim benefits, the monthly benefit increases with delayed retirement credits (DRCs). DRCs can be earned each month up to age 70 and can increase benefits by about 0.667 percent a month, or 8 percent a year (Table 2).<sup>2</sup> If the same person described in our example *waited* 4 years (48 months) to claim benefits at age 70, his or her monthly benefit would increase by about 32 percent, or \$320, for a monthly benefit of \$1,320. The total increase in benefits for persons claiming at age 70 (32 percent) is larger than the total reduction for those retiring at 62 (25 percent) with a FRA of 66. Once the FRA reaches 67, the total increase from DRCs (24 percent) will be smaller than the total reduction before that FRA (30 percent); however, the dollar increase in monthly benefits for delaying benefit claiming by 1 year will still be larger for individuals after reaching the FRA than before reaching it. For example, the same individual described earlier with an FRA of 66 and an unreduced benefit of \$1,000 a month would get \$50 more in monthly benefits if he or she delayed claiming from age 62 to 63, compared with \$80 more a month if that worker delayed claiming from age 66 to 67.

Because the early retirement reduction factors (which reduce benefits for claiming early) and DRCs (which increase benefits for claiming later) are roughly actuarially fair, *lifetime benefits* are about the same for the average beneficiary regardless of claiming age.<sup>3</sup> For individuals who retire early, monthly benefits are

**Table 1.**  
**Current-law benefit decreases for each year of claiming benefits before the full retirement age (FRA)**

Year of birth	FRA	Annual percentage decrease from age—					Total percentage decrease from FRA to 62
		63 to 62	64 to 63	65 to 64	66 to 65	FRA to 66	
1943–1954	66	5.0	6.7	6.7	6.7	...	25.0
1955	66 and 2 months	5.0	6.4	6.7	6.7	1.1	25.8
1956	66 and 4 months	5.0	6.1	6.7	6.7	2.2	26.7
1957	66 and 6 months	5.0	5.8	6.7	6.7	3.3	27.5
1958	66 and 8 months	5.0	5.5	6.7	6.7	4.4	28.3
1959	66 and 10 months	5.0	5.3	6.7	6.7	5.6	29.2
1960 or later	67	5.0	5.0	6.7	6.7	6.7	30.0

SOURCE: Social Security Administration, Office of the Chief Actuary, Benefit Reduction for Early Retirement (SSA 2008), <http://www.socialsecurity.gov/OACT/quickcalc/earlyretire.html>.

NOTES: The percentages are based on calculating the reductions to the full monthly benefit amount at the FRA and expressing those amounts based on claiming age. All percentages are rounded.

... = not applicable.

**Table 2.**  
**Current-law benefit increases for each year of claiming benefits after the full retirement age (FRA)**

Year of birth	FRA	Annual percentage increase from age—				Total percentage increase from FRA to 70
		FRA to 67	67 to 68	68 to 69	69 to 70	
1943–1954	66	8.0	8.0	8.0	8.0	32.0
1955	66 and 2 months	6.7	8.0	8.0	8.0	30.7
1956	66 and 4 months	5.3	8.0	8.0	8.0	29.3
1957	66 and 6 months	4.0	8.0	8.0	8.0	28.0
1958	66 and 8 months	2.7	8.0	8.0	8.0	26.7
1959	66 and 10 months	1.3	8.0	8.0	8.0	25.3
1960 or later	67	...	8.0	8.0	8.0	24.0

SOURCE: Social Security Administration, Office of the Chief Actuary, Effect of Early or Delayed Retirement on Retirement Benefits (SSA 2010), [http://www.socialsecurity.gov/OACT/ProgData/ar\\_drc.html](http://www.socialsecurity.gov/OACT/ProgData/ar_drc.html).

NOTES: The percentages are based on calculating the increases to the full monthly benefit amount at the FRA and expressing those amounts based on claiming age. All percentages are rounded.

... = not applicable.

reduced to take into account the longer period of time they are received. For individuals who retire later, the higher monthly benefit takes into account the shorter period of time they are received.

Auxiliary benefits, including both spousal and survivor benefits, are also reduced if they are claimed early, but different rules apply. At the FRA, a spouse is eligible to receive 50 percent of a retired-worker's benefit. Spousal retirement benefits can start at age 62 and are reduced for each month they are claimed before the FRA by slightly different reduction factors than those described earlier.<sup>4</sup> However, spousal benefits do not increase if the retired worker earns DRCs.<sup>5</sup>

In comparison, the earliest age that survivor retirement benefits can start is age 60.<sup>6</sup> Survivor benefits that start at age 60 are always reduced by the maximum reduction of 28.5 percent. (For example, a \$1,000 monthly survivor benefit at the FRA would be reduced to \$715 if benefits began at age 60.) The retired-worker's benefit claiming decision affects that of his or her surviving spouse: Survivors can receive no more than the retired worker would have received if that worker started receiving benefits before reaching his or her FRA, and survivors can also inherit DRCs if the retired worker claimed benefits after reaching his or her FRA.<sup>7</sup>

## ***Legislative History***

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The original Social Security Act of 1935 set the age at which retirement benefits could be received at 65. The 1948 Social Security Advisory Council recommended lowering the age at which women could receive benefits to 60. The justification for doing so was that the husband's retirement benefits were inadequate to "maintain the family." Surveys at the time showed that families in which the wife was also entitled to benefits had a substantially higher standard of living. Because the majority of married men who reached age 65 had younger wives, lowering the age at which women could receive benefits would permit the younger, female spouse to claim benefits when the husband claimed benefits (Advisory Council Report on Social Security 1948). The 1956 Amendments to the Social Security Act did just that, by allowing female workers and wives to start receiving benefits at age 62 (instead of age 60, as recommended), but at a reduced level to take into account the longer period over which they would receive benefits.<sup>8</sup> The 1961 Amendments lowered the age at which male retirees could receive reduced benefits to age 62 as one possible solution to the economic problem of unemployed older workers (Cohen and Mitchell 1961).<sup>9</sup> The 1965 Amendments allowed widows to receive reduced benefits as early as age 60, and widowers were added in the 1972 Amendments.

The 1972 Amendments also instituted DRCs, which originally increased benefits by one-twelfth of 1 percent for each month between ages 65 and 72 in which an individual did not claim benefits (Ball 1973). DRCs were added to the law as a partial offset to the retirement earnings test (RET), which applies when individuals claim benefits before the FRA but continue to work. Specifically, beneficiaries who are younger than their FRA and have earnings over a certain threshold have their benefits either partially or fully offset by the RET (discussed in more detail later in the article).<sup>10</sup> In 1972, some observers argued that if program participants continued to work after age 65 and did not claim benefits (because they did not want to be subject to the RET), it was only fair that they receive some additional compensation for their extra work (DeWitt 2000). DRCs were increased to 3 percent a year with the 1977 Amendments for persons reaching age 62 after 1978. The 1983 Amendments gradually increased DRCs to 8 percent a year beginning in 1990, while also incrementally increasing the FRA from age 65 to age 66 by 2009 and to age 67 by 2027. The age up to which DRCs could be earned was lowered from 72 to 70 starting in 1984 to correspond with the age at

which the RET no longer applied (SSA n.d.). The 2000 Amendments eliminated the RET for beneficiaries once they reached their FRA.<sup>11</sup>

Because of the legislative changes that have been implemented over time, the age at which people start to claim benefits has shifted. Prior to the 1956 Amendments, the majority of women claimed benefits after their FRA (Chart 1). Once the law changed and allowed women to claim benefits (albeit reduced) before their FRA, the percentage of women who claimed benefits after their FRA dropped dramatically, from 78 percent in 1950 to 33 percent in 1960. By 2010, only 6 percent of women waited until after the FRA to claim benefits. However, the percentage of women claiming benefits at age 62 doubled from just over 25 percent in 1960 to over 50 percent in 2010.

We find similar patterns for men, who could claim benefits before their FRA starting with the 1961 Amendments. Seventy-eight percent of men claimed benefits after their FRA in 1950, while only about 6 percent did so in 2010 (Chart 2). The proportion of men claiming at the EEA more than doubled from about 20 percent in 1970 to almost 50 percent in 2010.<sup>12</sup>

As described above, shifts in claiming behavior over time seem to follow legislative changes, suggesting that individuals may be responding to nonhealth- or non-wealth-related external cues in deciding when to claim benefits. Taken together, these findings may suggest that new incentives, such as those proposed later, could influence an individual's benefit claiming behavior.

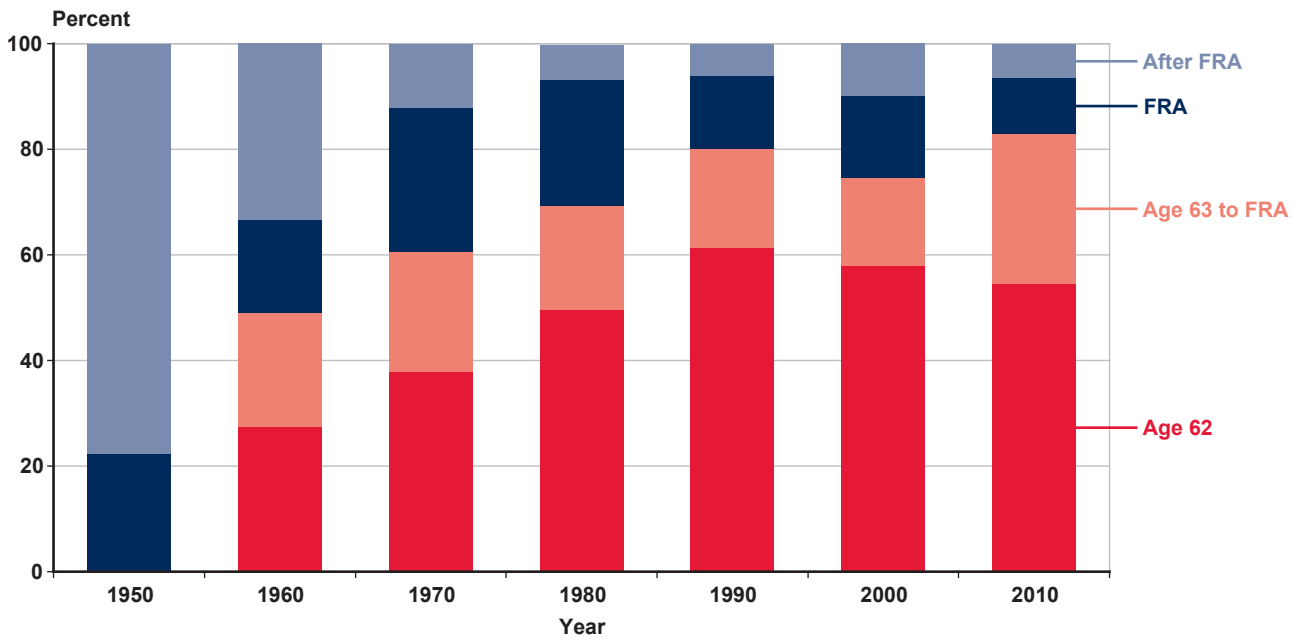
## ***Current Trends in Social Security Benefit Claiming Behavior***

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Most people claim benefits before their FRA, with many claiming as early as possible. Of the nondisabled persons who claimed benefits in 2012, around 40 percent of both men and women claimed benefits at the EEA, with most of the remaining portions claiming them by their FRA (Chart 3). On the other hand, just over 3 percent of men and women waited until after their FRA to claim benefits in that year.

In order to identify the characteristics of individuals claiming at various ages, we use SSA's MINT6 data<sup>13</sup> to examine nondisabled beneficiaries in 2014 who started receiving benefits at age 62, at their FRA, and after their FRA (that is, ages 67 to 70).<sup>14</sup> We find that individuals who claimed benefits at age 62 had lower levels of education than those who claimed at their FRA or later. As Chart 4 shows, 45 percent of individuals who claimed benefits at age 62 had only a high

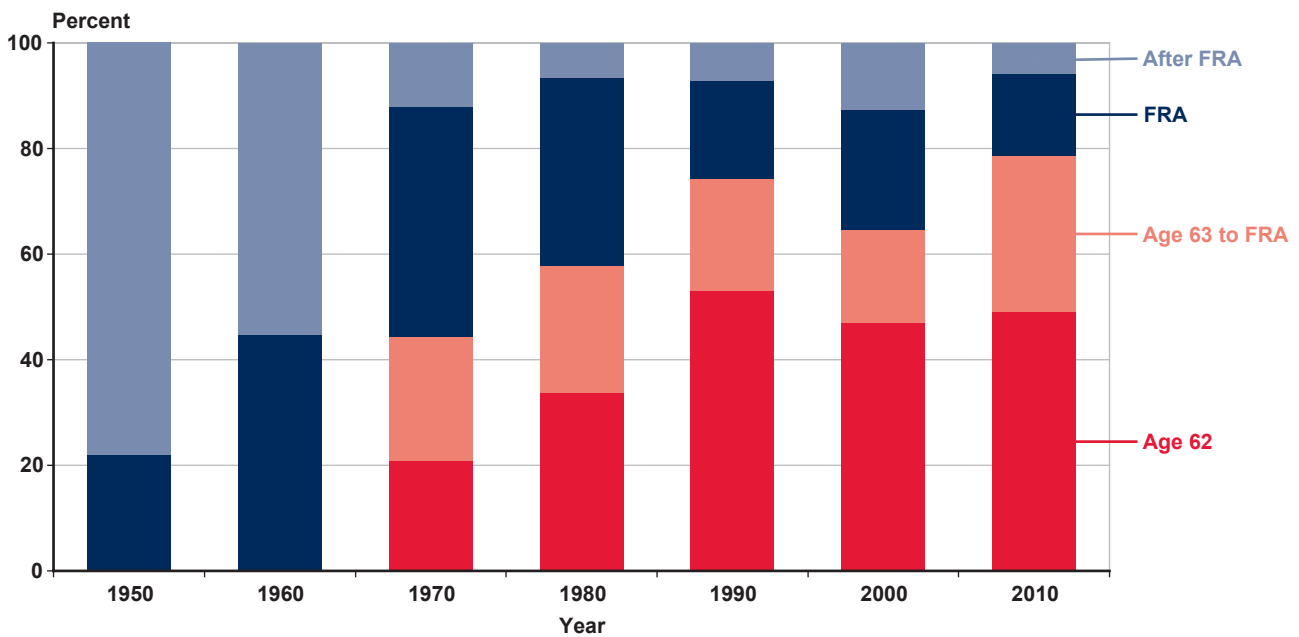
**Chart 1.**  
**Percentage distribution of retired-worker benefits awarded to women, by claim age, selected years 1950–2010**



SOURCE: *Annual Statistical Supplement to the Social Security Bulletin, 2013* (SSA 2014, Table 6.B5).

NOTES: The benefits awarded in 1960 and later years do not include disability conversions at the full retirement age (FRA).

**Chart 2.**  
**Percentage distribution of retired-worker benefits awarded to men, by claim age, selected years 1950–2010**

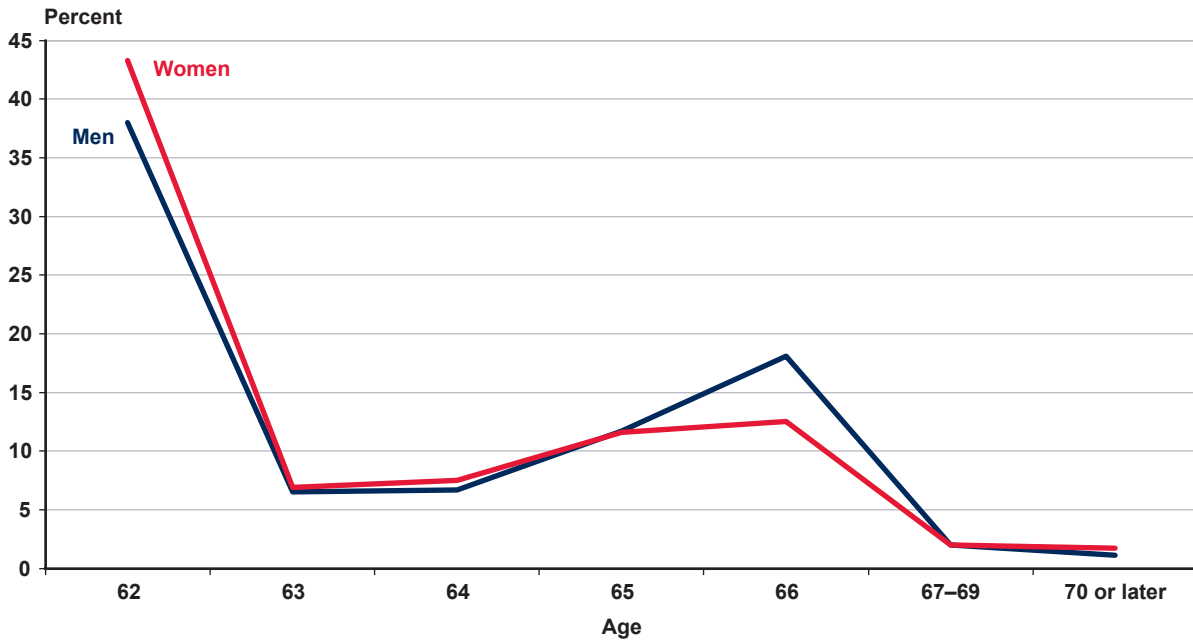


SOURCE: *Annual Statistical Supplement to the Social Security Bulletin, 2013* (SSA 2014, Table 6.B5).

NOTES: The benefits awarded in 1960 and later years do not include disability conversions at the full retirement age (FRA).



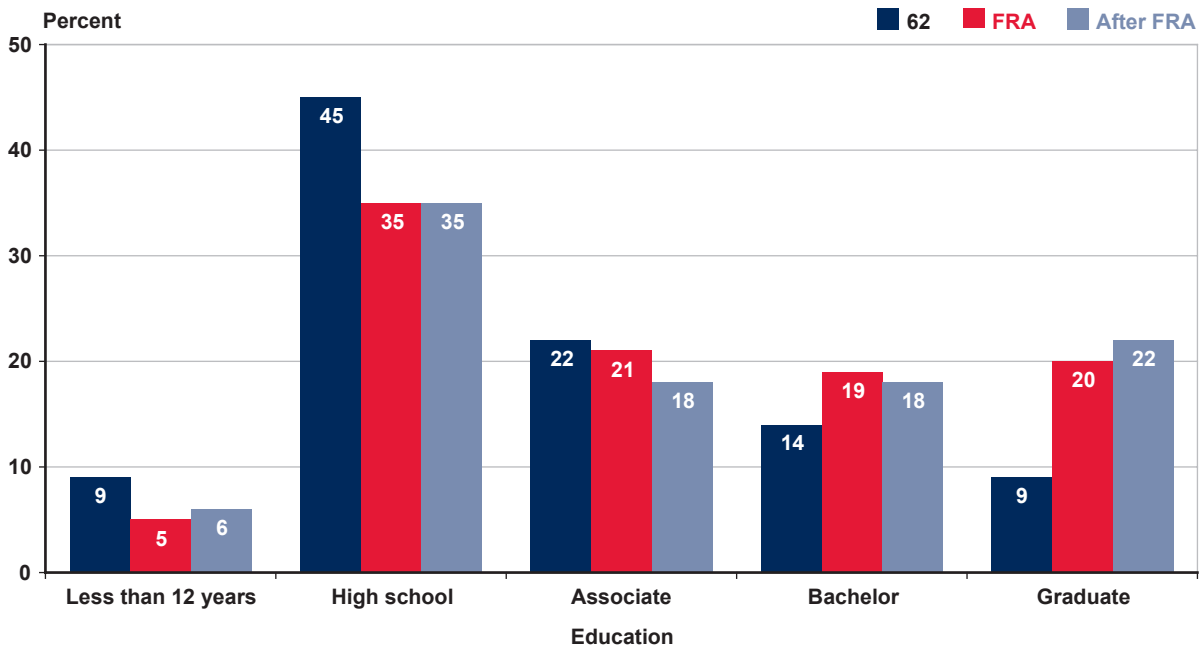
**Chart 3.**  
**Percentage of nondisabled beneficiaries at the age at which benefits began, by sex, 2012**



SOURCE: *Annual Statistical Supplement to the Social Security Bulletin, 2013* (SSA 2014, Table 6.B5).

NOTE: Because disabled beneficiaries are not included in the chart, the percentages do not sum to 100.

**Chart 4.**  
**Percentage distributions of nondisabled beneficiaries, by education and claim age, 2014**



SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

NOTES: All beneficiaries are fully insured by age 62. Rounded components of percentage distributions do not necessarily sum to 100.

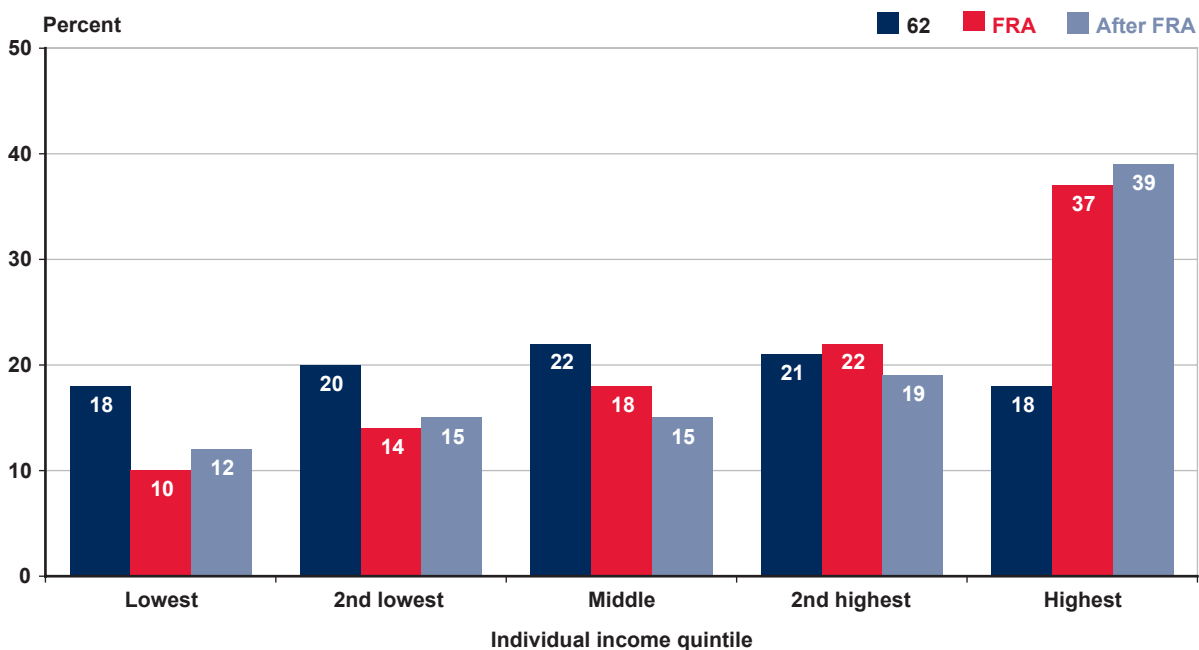
FRA = full retirement age.

school diploma compared with 35 percent in the older claiming-age groups. In addition, about 40 percent of individuals who claimed at their FRA or later had either a bachelor's or graduate degree, compared with less than a quarter of those who claimed at age 62.

Beneficiaries who claimed at their FRA or later were also much more likely to have had high individual non-Social Security income (Chart 5). Almost 60 percent of beneficiaries in those claiming-age groups had individual income in the two highest quintiles. Because those individuals had other sources of income outside of Social Security (including earnings, defined benefit pension income, and asset income)<sup>15</sup> to help them maintain their standard of living, it makes sense that they would have claimed benefits later. For individuals who claimed at age 62, about 40 percent had individual income in the two highest quintiles. That proportion represents high individual-income persons who could have possibly afforded to wait past age 62 to claim Social Security benefits, but claimed at age 62 anyway.

The health status<sup>16</sup> of workers often plays a role in when they decide to claim retirement benefits. As Chart 6 shows, between approximately 15 and 20 percent of beneficiaries said they were in fair or poor health at each of the claiming ages. Individuals may decide to claim benefits once they are no longer in good health, which could occur at any age between 62 and 70. However, just over 80 percent of beneficiaries who claimed benefits at age 62 reported that they were in good, very good, or excellent health, perhaps indicating that their health status was not the main motivation for claiming benefits as early as possible. Tied to health status is the degree to which individuals feel that their health limits their ability to work. For nondisabled beneficiaries who claimed benefits at age 62, about 84 percent said they had no health-related limitations on their work, while 13 percent of nondisabled beneficiaries who claimed at their FRA had any limits (Chart 7). This implies that many employed workers are healthy enough to continue working in lieu of claiming benefits at the EEA.

**Chart 5.**  
**Percentage distributions of nondisabled beneficiaries, by non-Social Security individual income quintile and claim age, 2014**

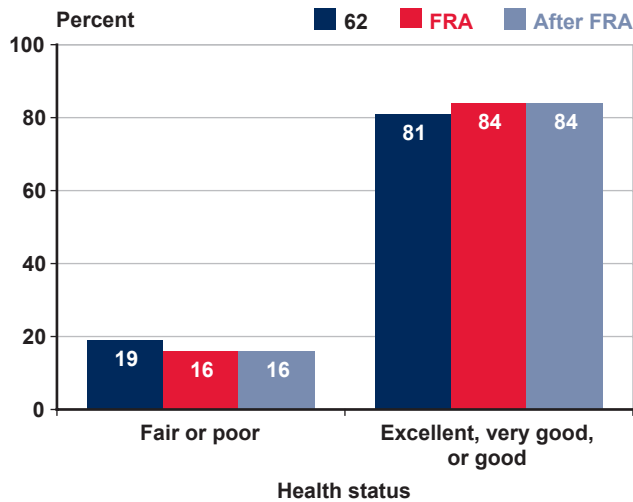


SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

NOTES: All beneficiaries are fully insured by age 62. Rounded components of percentage distributions do not necessarily sum to 100.

FRA = full retirement age.

**Chart 6.**  
**Percentage distributions of nondisabled beneficiaries, by health status at claim age**

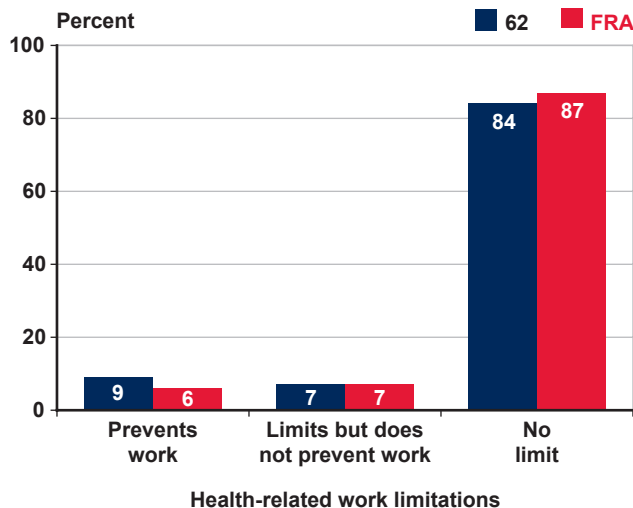


SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

NOTES: All beneficiaries are fully insured by age 62.

FRA = full retirement age.

**Chart 7.**  
**Percentage distributions of nondisabled beneficiaries, by health-related work limitations at claim age**



SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 (MINT6) projections.

NOTES: All beneficiaries are fully insured by age 62. In MINT6, health-related work limitations are only reported for individuals up to age 67; therefore, the After FRA group is not included.

Rounded components of percentage distributions do not necessarily sum to 100.

FRA = full retirement age.

As expected, individuals who claim benefits earlier receive them for a longer period. Claimants at age 62 will receive benefits for almost 25 years, compared with about 20 years for those who claim after their FRA (Table 3). However, the average death age<sup>17</sup> for beneficiaries who claim benefits at age 62 is only 1 year lower than it is for those who claim at their FRA or later. This means that, on average, those beneficiaries who chose to have permanently reduced benefits will still need those benefits at fairly old ages, when health costs may be at their highest and personal savings may be depleted. As the table shows, beneficiaries who claimed benefits at age 62 will receive about \$500 less per month, on average, than those who waited until at least their FRA to claim. The difference is larger when compared with individuals who wait until after their FRA to claim, as those beneficiaries receive DRCs for each month they delay claiming past their FRA.

In sum, beneficiaries who claimed benefits at age 62 had lower levels of education and income than those who waited until at least their FRA to claim. However, the proportion of nondisabled beneficiaries who reported being in fair or poor health, or having health-related limitations, was only slightly higher for those who claimed benefits at age 62 than for those who claimed later. Individuals who started receiving benefits at younger ages will receive smaller monthly amounts for a longer period than those who claimed later. Although many people have reasons for retiring early, such as becoming disabled, facing a work limitation, being laid off with few job prospects, or having to care for a disabled spouse or other family member (Helman and others 2014), there may be some individuals who claim benefits at age 62 who *could* claim them later. For example, early claimers who have higher education levels may have greater job prospects that could allow them to work longer. In addition, many early

**Table 3.**  
**Monthly retirement benefit, length of benefit receipt, and age at death averages for nondisabled beneficiaries, by claim age, 2014**

Claim age	Monthly benefit (\$)	Length of benefit receipt (years)	Age at death
62	1,134	24.8	87
FRA	1,695	22.7	88
After FRA	1,789	19.8	88

SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.



claimers are in good or excellent health, which may also enable them to continue working. In fact, there has been a long-term rise in labor force participation rates among individuals aged 55 or older since the 1990s (Sok 2010).<sup>18</sup> Lastly, the average death age is comparable in all three claiming-age groups, which means that individuals who claim early will need their benefits to last for about as long as those who claim later.

### ***Incentives to Delay Benefit Claiming***

The current structure for incentivizing delayed claiming of retirement benefits provides larger annual incentives for delaying claiming after the FRA than it does for delaying claiming before the FRA. Although the current incentive structure provides for actuarial fairness in average lifetime benefits, it is possible that a different structure could more adequately serve the needs of beneficiaries across the income distribution in terms of monthly benefit amounts. The primary reason for encouraging delayed claiming is so that retirees have more monthly income in their later years, when personal savings, if any, are more likely to be depleted and health costs are likely to be at their highest. In essence, then, the argument to delay claiming is one of increasing monthly benefits as much as possible, not necessarily maximizing lifetime benefits. From this perspective, policymakers may prefer to sacrifice some actuarial fairness in lifetime benefits in exchange for enhancing income adequacy for older Americans.

In this section, we present ideas for changing the current incentive structure to encourage delayed claiming in the years before the FRA, based on previous psychological and behavioral research. As previously noted, we are considering delayed claiming to mean that an individual claims benefits later than he or she would have chosen to claim otherwise. To inform the behavioral responses we model in our analysis, we include any available information on how similar ideas have affected claiming decisions in the past. We do not consider the impact on the agency's administrative costs or program solvency for any of these incentives.

### ***Changing the Early Retirement Reductions***

The current incentives are structured to provide the largest annual increase in benefits at the oldest claiming ages and the smallest incentive to delay claiming for individuals considering delaying just past the EEA. As noted previously, individuals who delay claiming after their FRA receive an 8 percent annual increase to their unreduced monthly benefit through DRCs. In comparison, individuals who wait to claim until at

least 3 years before their FRA receive an approximate 6.7 percent reduction to their unreduced monthly benefit for each year until they reach their FRA, while claiming 1 year earlier from age 63 to 62 results in an additional 5 percent benefit reduction (Table 1). An individual might not view this 5 percent benefit change as large enough to encourage them to claim benefits beyond age 62. Increasing the benefit for delaying claiming could be more of an incentive for individuals to delay claiming past age 62.

In addition, the prospect of earning an 8 percent increase in benefits through DRCs for delaying benefit claiming after reaching the FRA may be too far in the future for it to be a realistic incentive for the 40 percent of both men and women who currently claim at the EEA. Psychological research has shown that individuals tend to display a *present bias*, or a tendency to overweigh the value of rewards they can receive immediately. Present bias helps to describe the common finding that individuals often prefer a smaller, sooner reward to a larger, later reward (Loewenstein and Prelec 1992). Trends in benefit claiming are consistent with present bias, as an overwhelming majority of individuals are willing to accept a permanently reduced monthly benefit in order to receive their benefits sooner. If it is difficult to encourage people to delay claiming for a few months or a year, it may be unrealistic to expect them to delay claiming long enough to earn DRCs.

Increasing the benefit for delayed claiming before the FRA would make the monthly change (and therefore, annual change) in benefits from age 62 to 63 (and from age 63 to 64 for those with an FRA of 67) larger than in subsequent years. It is important to note that making the size of the *increase* larger for each month an individual delays claiming past age 62 is akin to increasing the size of the monthly *reduction* in benefits over the same period. However, under this incentive, the total reduction for claiming before the FRA would be the same as that under current law (that is, about 25 percent for individuals with an FRA of 66 who claim at age 62 and about 30 percent for those with an FRA of 67 who claim at age 62). Making the suggested changes therefore would not penalize those who cannot delay benefit claiming beyond age 62 (for example, those who become disabled or face a work limitation, are laid off and have few job prospects, or have to care for a disabled spouse or other family member) because the total reduction stays the same.

The proposed change-reductions policy option appears in Table 4 and shows that for all birth cohorts, the annual reduction in benefits from age 63 to 62

**Table 4.**  
**Option benefit decreases for each year of claiming benefits before the full retirement age (FRA)**

Year of birth	FRA	Annual percentage decrease from age—					Total percentage decrease from FRA to 62
		63 to 62	64 to 63	65 to 64	66 to 65	FRA to 66	
1943–1954	66	8.0	5.7	5.7	5.7	...	25.0
1955	66 and 2 months	8.0	5.9	5.5	5.5	0.9	25.8
1956	66 and 4 months	8.0	6.2	5.3	5.3	1.8	26.7
1957	66 and 6 months	8.0	6.6	5.2	5.2	2.6	27.5
1958	66 and 8 months	8.0	7.0	5.0	5.0	3.3	28.3
1959	66 and 10 months	8.0	7.5	4.8	4.8	4.0	29.2
1960 or later	67	8.0	8.0	4.7	4.7	4.7	30.0

SOURCE: Authors' calculations.

NOTES: The percentages are based on calculating the reductions to the full monthly benefit amount at FRA and expressing those amounts based on claiming age. All percentages are rounded.

... = not applicable.

would change from about 5 percent under current law to 8 percent under the option. The change in benefits for years closer to the FRA would be smaller than under current law, providing a smaller reduction for those individuals who have waited longer to claim benefits. For example, if an individual with an FRA of 67 waits 3 years past the EEA to claim at age 65, his or her monthly benefit would be reduced by only 9.4 percent under the option compared with about 13.4 percent under current law. By keeping the same total reduction and monthly benefit amount at age 62, this option provides a larger benefit at each subsequent age before the FRA, with the largest difference in the earliest years (Chart 8). In the example in the chart, the beneficiary has an unreduced retired-worker benefit of \$1,370 at his or her FRA of 67.<sup>19</sup> Under both the option and current law, the beneficiary's monthly benefit at age 62 would be about \$959. However, under the option, the monthly benefit at age 63 would be about \$1,067, compared with only about \$1,026 under current law. This represents an additional monthly benefit increase of about \$40 under the option for 1 year of delayed claiming from age 62 to 63.

Previous reforms to the Social Security benefit rules have resulted in changes to benefit claiming ages. Song and Manchester (2007a) found that when the FRA began to increase from age 65 (which is akin to an increase in the number of reduction factors), the overall percentage of claimants decreased, particularly among those aged 65 in that year (2003). In addition, benefit claiming also decreased by a small fraction for persons younger than their FRA, which indicated that they also responded to the FRA rule change. In their

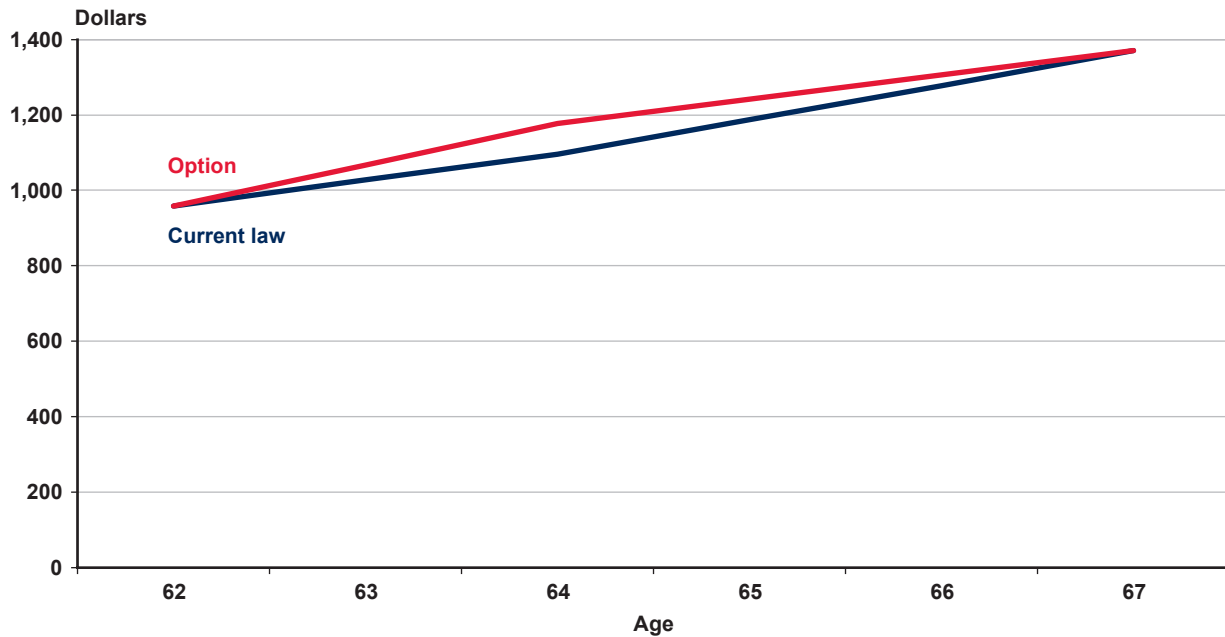
regression analysis, the authors found that a 4-month increase in the FRA results in a 1.5 and 1.7 percentage point decrease in benefit claiming rates at age 62 for women and men, respectively. Because changing the FRA results in more monthly and total early retirement reductions, it is reasonable to assume that our suggested benefit rule change—modifying the early retirement reductions—could also result in delayed claiming before the FRA.

### ***Paying Lump-Sum Early Retirement Reductions***

Social Security is essentially an inflation-adjusted annuity, which means that it provides beneficiaries with a steady stream of income from the time benefits are claimed until death. Although economic theory suggests that individuals, particularly those who are risk averse, should value an annuity's protection against longevity risk, annuities are notoriously unpopular (see, for example, Poterba, Venti, and Wise (2011)). In response to people's apparent reluctance to purchase annuities, researchers have explored individuals' preferences for annuities, as compared with lump sum payments; that is, whether individuals would be willing to give up a portion or all of a steady lifetime income stream in order to receive a lump-sum payout (see, for example, Brown, Casey, and Mitchell (2007); Brown and others (2011); Fetherstonhaugh and Ross (1999); and Orszag (2001)). Such research typically finds a strong preference for the lump-sum option. For example, lottery winners tend to prefer a smaller lump-sum payout to a larger annuity option (Brodricks 2004; Englebrecht and Anderson 2007). In addition,

**Chart 8.**

**Difference in monthly benefit between current law and the change-reductions policy option for an individual with a full retirement age of 67 and an unreduced retired-worker benefit of \$1,370, by claim age**



SOURCE: Authors' calculations.

some researchers have found that providing lump-sum bonuses to Navy personnel increased reenlistment, as compared with installment bonuses (Cylke and others 1982).

Other researchers have explored individuals' preference for a lump-sum payment specifically in the context of Social Security. In their life cycle model, Chai and others (2013) found that the average retirement age for individuals aged 60 rose by 1.4 years when a lump-sum option was introduced for DRCs. In addition, Fetherstonhaugh and Ross (1999) asked study participants to make a hypothetical decision between receiving an increase in yearly payments for delaying claiming from age 65 to 68 and receiving a lower yearly payment coupled with a one-time bonus payment to be received upon claiming benefits at age 68. Importantly, the lower yearly payment with the one-time bonus option had a lower present discounted value than the option offering an increase in yearly payments. Nevertheless, three-quarters of participants in the experiment preferred the option with the one-time bonus, while only one-quarter chose the increased yearly benefit. When participants were asked which option they thought the "average American worker" would prefer, 80 percent of them indicated that the one-time bonus payment would be a better incentive to delay claiming than the higher yearly benefit.

Because Social Security benefit payments are similar to those in an annuity (as previously noted), research exploring the appeal of trading in an annuity for a lump sum could be useful for developing incentives to encourage individuals to delay claiming their retirement benefits. Specifically, a lump-sum payment could be offered to individuals who delay claiming until after age 62.<sup>20</sup> This could be accomplished in two ways: (1) Individuals could receive a lump-sum payout in exchange for some of their monthly benefit increases, or (2) they could receive a lump-sum bonus in addition to their monthly benefit increases. The first option is similar to the hypothetical scenarios presented in Fetherstonhaugh and Ross (1999) and Chai and others (2013), which the authors found would encourage delayed claiming. Here individuals would be given an opportunity to relinquish a portion of their annuity for a lump-sum payment. In that case, the protective qualities of the annuity would be preserved, although the annuity would be smaller. The second option would allow individuals to continue receiving the current-law increase in monthly benefits before the FRA, while also receiving a lump-sum bonus for each year they delay claiming beyond age 62. To fund such an incentive, monies currently earmarked for DRCs after the FRA could be shifted to the lump-sum incentive for delaying claiming before the FRA.

## **Rewarding Work with Bonuses**

A significant portion of beneficiaries rely on Social Security retirement benefits as their primary source of income in retirement (SSA 2012). Because such individuals are likely to not have much personal savings or other pensions, the timing of these individuals' exit from the workforce may impact their decisions to claim Social Security benefits. Research has shown that individuals are less likely to claim benefits if they are working (Gustman and Steinmeier 2002), so encouraging them to delay claiming may be akin to encouraging their continued workforce participation (Knoll 2011). Therefore, we suggest that a successful incentive to delay claiming may be one that encourages prolonged workforce participation. As DRCs were originally intended to reward individuals who continued to work past their FRA, there is a precedent for offering increased benefits for increased work. Further, in addition to the increased Social Security retirement benefits that individuals would enjoy by delaying claiming, encouraging people to work longer could enhance retirement security through other means as well, such as giving them more time to accumulate personal retirement savings (Munnell and Sass 2008).

One way to incentivize work past the EEA, thereby potentially encouraging individuals to delay claiming past that age, would be to offer those persons intermittent bonuses tied to workforce participation. For example, individuals who continue to work and do not claim benefits after the EEA could receive a bonus at each yearly interval (month 12, 24, 36, and so forth) until reaching their FRA. Behavioral economics and psychological research suggest that remitting the bonus as individuals reach each yearly milestone, rather than rolling it into the future benefit, could be particularly effective; this is because individuals tend to be present biased, which means that they prefer outcomes that are available immediately (Laibson 1997; McClure and others 2004). The knowledge that a tangible cash benefit will become available in a few months (once wages are reported) may lead individuals who are considering leaving the workforce and claiming benefits to delay making that choice.

Research also suggests that the bonuses would be most effective if each one increased in size up through the FRA, as individuals prefer increasing sequences of income rather than constant sequences (Lowenstein and Prelec 1992). Although establishing the optimal size of the bonus could be challenging, it would be reasonable to base the bonus on a percentage of the individual's annual earnings, which is reported to SSA

each year, or on a percentage of his or her unreduced monthly benefit. Similar to the taxable maximum used in the calculation of retirement benefits,<sup>21</sup> there could be an income cap placed on the incentive, such that income over a certain dollar amount would not be included in the calculation of the bonus amount.

## **Instituting a Lottery**

Recent research has shown that lotteries can successfully incentivize low-income individuals to engage in savings behavior (see, for example, Guillén and Tschoegl (2002)). Lotteries take advantage of individuals' tendency to overweigh very small probabilities (Kahneman and Tversky 1979), which leads to the lottery being overvalued. As such, lotteries can potentially create a more appealing incentive than fixed or guaranteed payouts like the ones proposed in the previous section.

A lottery system could be created wherein individuals who continue to work past age 62 and have not yet claimed benefits would be entered into an annual lottery and have a chance to win a cash prize. Under that system, only nonbeneficiaries who have earned income in the previous year would be entered into the lottery. A winner would be drawn annually because earned income is tracked on an annual basis. In order to ensure that the size of the cash prize is large enough to create a worthwhile incentive to delay benefit claiming, the prize could be a percentage of the individual's income in the previous year. Although this proposal encourages delayed claiming through increased workforce participation, a lottery could also be implemented that is directly linked to an individual's choice to not claim benefits. That is, any eligible individual who does not claim benefits in a given year could be entered into the lottery, regardless of whether he or she had earned income in the previous year.

## **Reforming the Earnings Test**

As noted previously, individuals who claim retirement benefits before they have reached their FRA and continue working may have some or all of their monthly benefits withheld if they earn more than the earnings-test thresholds. In 2014, if a beneficiary who remains younger than his or her FRA throughout the year is working and earning more than the \$15,480 threshold, then \$1 in benefits is withheld for every \$2 in earnings above that limit. In the year during which that beneficiary reaches his or her FRA, he or she is subject to a separate RET with a higher earnings threshold (\$41,400 for 2014) and smaller offset (\$1 in



benefits is withheld for every \$3 in earnings above the limit), which applies only in the months prior to attaining his or her FRA. The RET no longer applies once a beneficiary reaches his or her FRA, which means that the beneficiary can earn any amount and receive a full benefit. Benefits are recalculated at the FRA to account for any months in which they were fully or partially withheld, resulting in a permanently higher monthly benefit for the retired worker and any auxiliary beneficiaries drawing benefits on that worker's earnings record. The RET is roughly actuarially fair over the average lifetime. Because the earnings test withholds part or all of the benefits for some working beneficiaries before they reach their FRA, it may discourage early benefit claimers from working and encourage persons who are working to delay claiming benefits. Policymakers have suggested eliminating or liberalizing the RET to encourage work at older ages; however, that would also increase the incentive to claim early.

Research has examined how previous changes to the RET have affected the timing of Social Security benefit claiming. In 2000, the RET was eliminated for beneficiaries between their FRA and age 70 (DeWitt 2000). There is evidence that this policy change led people to claim benefits earlier than they would have without the repeal. Song and Manchester (2007b) showed that benefit claims increased between 3 and 7 percentage points for persons reaching age 65, and between 2 and 5 percentage points for those aged 65–69. Before 2000, only 10 percent of individuals aged 65–69 had not yet claimed Social Security benefits, which means that a 2 to 5 percentage point increase represented a 20 to 50 percent change in benefit receipt among that group. Other studies found similar increases in benefit claiming (Song 2003/2004; Mastrobuoni 2006).

Because eliminating or liberalizing the RET has been found to result in earlier benefit claiming, it is possible that making the RET more stringent could result in *later* benefit claiming.<sup>22</sup> This could be accomplished in a number of ways; for example, the RET threshold could be lowered from the current yearly amount of \$15,480, or the benefit offset (currently \$1 withheld for every \$2 in earnings over the limit) could be increased to a \$1 for \$1 withholding. The RET was included in the original Social Security Act of 1935 and required full retirement from gainful employment as a condition for receiving benefits. That stipulation was consistent with the social insurance nature of retirement benefits: Benefits would only replace

earnings that were lost because of old age (DeWitt 1999). Therefore, a stricter RET would adhere more closely to the policy's original intent and would also encourage delayed claiming before the FRA for individuals who continue to work.

### ***Behavioral Response to the Incentives to Delay Claiming***

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There are numerous reasons why individuals may choose to claim benefits at the earliest opportunity. Although leaving the workforce and claiming benefits need not temporally coincide, for many people, stopping work and claiming benefits often do occur at the same time. This may be especially true for individuals who do not have personal savings or other pensions. As noted earlier, some reasons why retirement-age individuals may stop working include becoming disabled or facing a work limitation, being laid off and having few job prospects, or having to care for a disabled spouse or other family member (Helman and others 2014).

However, there may be a number of reasons unrelated to health or financial need for individuals to choose to stop working and claim benefits at the EEA. For example, concerns about the solvency of Social Security may be driving individuals to claim their retirement benefits as soon as possible (Bukspan 2011). Psychological and behavioral factors, such as viewing age 62 as an “anchor” or “reference point,” or individuals being “burnt out” (Bidewell, Griffin, and Hesketh 2006) or “tired of work” (Beehr and others 2000) may also influence people to claim at the EEA (see Knoll (2011) for a discussion). The results discussed earlier demonstrate that, for some individuals, the decision to claim benefits early is not driven primarily by limited income (Chart 5), poor health (Chart 6), and/or work limitations (Chart 7), but rather appears to be more of a voluntary choice.

Below, we show how an incentive to delay claiming might affect claiming behavior and benefits in the future. Specifically, we simulate the effects of one of the incentives described earlier: changing the early retirement reduction factors. We chose to model this particular incentive because changing the current-law framework for this option was the most straightforward, and because it is similar to other changes that have been implemented in the past, such as increasing the FRA and the DRCs. In addition, everyone who claims benefits after the option start date would be subjected to these new early retirement reductions. Because the option only changes current-law rules,



the comparison between the effects of the option alone and the option with behavioral responses is clear. Modeling some of the other options would require making assumptions in *both* the options' take-up behavior and in individuals' claiming behavior, which may make the comparison between the option alone and the behavioral response to the option less clear.

## Methodology

Using SSA's MINT6 data, we compare the benefits under the option to change the early retirement reductions starting in 2014 with the benefits scheduled to be paid under current law ("scheduled benefits") and project the results for Social Security beneficiaries aged 60 or older in 2030. Given that the incentives described earlier are designed to encourage delayed claiming, we compare the results of a static simulation—in which beneficiaries do not change their behavior in response to the policy change—with two behavioral-response simulations—in which we assume a 1-year delay in benefit-start age for two subsets of individuals who claim benefits at age 62 under current law. We chose to change the behavior of individuals who claim at age 62 because this age has been shown to serve as a *reference point* for many people (Knoll and others, forthcoming) and therefore, the incentives have the potential to affect many people. The first subset of individuals whose behavior we change represents the "more-likely" scenario, in which we change the benefit-start age by 1 year only for those who are in good, very good, or excellent health; have no health-related work limitations; are in the top-three individual non-Social Security income quintiles; and have an associate, bachelor, or graduate degree. The second subset expands the number of individuals whose behavior we change by removing the income and education requirements. In this "best-case" scenario, we change the benefit-start age by 1 year only for those who are in good, very good, or excellent health and have no health-related work limitations. We keep the health requirements in the *best-case* scenario because, according to the Retirement Confidence Survey, the main reason for retiring earlier than expected was health problems or a disability (Helman and others 2014).

We chose a 1-year delay in benefit claiming from age 62 to 63 for our two scenarios by drawing on previous research that also examined potential behavioral changes to benefit claiming. Specifically, Chai and others (2013) showed a 1.4-year delay in claiming for individuals aged 60 in response to implementing

a lump sum for DRCs, and Olsen and Romig (2013) modeled a 1-year delay in claiming in response to the removal of the RET.

## Results

In the static simulation, about a third of beneficiaries in 2030 would receive higher benefits under the option to change early retirement reductions, and no one would receive a lower benefit. This is because we keep the total reduction for claiming benefits at age 62 the same as under current law. The majority of persons who would receive benefit increases under the option would start receiving benefits between ages 63 and 66, as expected (Table 5). These results reflect those shown in Chart 8. About 11 percent of individuals who claim at age 62 would receive higher benefits under the option alone compared with scheduled benefits because of the change in monthly reduction factors in the months after they turn 62. The 1 percent of individuals who claim at age 67 or older with higher benefits would be auxiliary beneficiaries who receive an increase in their spousal or survivor benefit through an increase in the retired-worker's benefit. Changing the early retirement reductions would result in higher benefits compared with those under current law for beneficiaries in all of the individual non-Social Security income quintiles and education groups; however, these results are slightly regressive. For example, just under a quarter of individuals in the lowest income quintile and at the lowest education level would have higher benefits under the option alone, compared with about 35 percent of those in the highest income quintile and at the graduate education level.

Adding a behavioral response to the policy option to change early retirement reductions assumes that the policy option is implemented *and* individuals who we suggest may be able to respond to the change delay claiming benefits by 1 year. Overall, there would be a 5 percentage point increase in the proportion of beneficiaries who would receive higher benefits under the *more-likely* scenario (again, these are individuals in good, very good, or excellent health with higher education and individual income levels). There would be a 13 percentage point increase under the *best-case* scenario (again, these are individuals in good, very good, or excellent health, regardless of education or income). Among beneficiaries who claim at age 62 under current law, 11 percent would have higher benefits under the static option, compared with 21 percent under the *more-likely* behavioral response and 36 percent under the *best-case* behavioral

**Table 5.**  
**Percentage of beneficiaries aged 60 or older with lower or higher benefits compared with scheduled benefits in 2030, by selected characteristics: Static and behavioral-response simulations**

Characteristic	Change reductions alone (static)		Change reductions plus more-likely behavioral response		Change reductions plus best-case behavioral response	
	Lower benefit	Higher benefit	Lower benefit	Higher benefit	Lower benefit	Higher benefit
Overall	0	32	1	37	1	45
Claim age						
62 or younger	0	11	1	21	2	36
63–66	0	62	0	62	0	62
67 or older	0	1	0	1	0	1
Individual non-Social Security income quintile						
Highest	0	35	1	43	1	45
2nd highest	0	38	1	46	1	50
Middle	0	34	1	40	1	48
2nd lowest	0	29	0	32	1	45
Lowest	0	23	0	24	1	37
Education						
Graduate	0	34	1	42	1	45
Bachelor	0	38	1	48	2	50
Associate	0	34	1	42	2	47
High school	0	28	0	29	1	43
Less than 12 years	0	24	0	26	1	35

SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

response. The larger shares of individuals with higher benefits under the behavioral responses result from these individuals delaying benefit claiming by 1 year, which permanently increases monthly benefits. Because we only change the behavior of individuals who claim at age 62, the effect on benefits for the other claiming-age groups does not change under the static and both behavioral simulations. Changing the behavior of more individuals in the *best-case* scenario would result in more beneficiaries with lower income and education levels receiving higher benefits under the option. For example, when only changing the behavior of persons with higher income and education levels under the *more-likely* scenario, the proportion of individuals in the lowest non-Social Security individual income quintile that has higher benefits under the option alone would only increase by 1 percentage point compared with 14 percentage points in the *best-case* scenario, where individuals with lower income and education levels would also change their behavior.

Another effect of adding the behavioral responses to the simulation is that about 1 percent of beneficiaries overall would have a lower benefit (Table 5);

however this would be the result of individuals who start receiving benefits in 2030 at age 62 under current law, now waiting until 2031 to receive them at age 63. Table 6 shows that just over 330,000 beneficiaries under the *more-likely* scenario and over 770,000 beneficiaries under the *best-case* scenario would not have a benefit under the option in 2030 when they otherwise would have had one. However, when these individuals claim benefits 1 year later under the two scenarios, their benefits would be permanently increased compared with those under both current law and the static option because these individuals would be subjected to fewer early retirement reductions.

Table 7 shows the distribution of beneficiaries by the size of their benefit changes under the static and behavioral scenarios. In the static simulation, most of the affected beneficiaries would have their benefits increased by 1 to 9 percent. However, when the behavioral responses are included, a larger number of beneficiaries would have their benefits increased by 10 to 19 percent, reflecting the additional effects of claiming benefits 1 year later. A small proportion of beneficiaries would have their benefits reduced by more than 20 percent when behavioral responses are included,

**Table 6.**  
**Number (in thousands) and percentage of beneficiaries who would lose benefits compared with scheduled benefits, by claim age, 2030: Static and behavioral-response simulations**

Claim age	Change reductions alone (static)		Change reductions plus more-likely behavioral response		Change reductions plus best-case behavioral response	
	Number	Percent	Number	Percent	Number	Percent
62 or younger	0	0	-337	1	-773	2
63–66	0	0	0	0	0	0
67 or older	0	0	0	0	0	0

SOURCE: Authors' calculations using Modeling in the Near Term, Version 6 projections.

**Table 7.**  
**Percentage distribution of beneficiaries with a claim age of 62 or younger in 2030, by the size of their benefit changes compared with scheduled benefits: Static and behavioral-response simulations**

Simulation	Decline			No change	Increase		
	≥20	10–19	1–9		1–9	10–19	≥20
Change reductions alone (static)	0	0	0	89	11	0	0
Change reductions plus more-likely behavioral response	1	0	0	78	9	11	0
Change reductions plus best-case behavioral response	2	0	0	61	7	29	1

SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

NOTE: Rounded components of percentage distributions do not necessarily sum to 100.

which shows the effect of not receiving Social Security benefits for the 1 year in which claiming is delayed.

For those beneficiaries who receive benefit increases under both the static and behavioral simulations, the resulting overall median benefit increase would be about 3 to 5 percent (Table 8). The largest change can be seen for persons who would claim at age 62 under current law. When just the reduction factors are changed, those beneficiaries would receive a median benefit increase of 2 percent compared with scheduled benefits. However, when the behavioral responses are added to the reduction-factor change, the median benefit increase for that group would be 11 to 12 percent. As previously discussed, shifting claiming ages by 1 year would result in a very small proportion of beneficiaries with a 100 percent benefit reduction in 2030; these individuals would then be able to claim a higher monthly benefit at age 63 in 2031.

The overall poverty rate in 2030 would not change under any of the simulations (Table 9). However, the poverty rate for beneficiaries in the lowest individual income quintile would be slightly lower under the

static option and under the two behavioral-response scenarios. These results are expected because the overall change in benefits is small under the option alone, and both the *more-likely* and *best-case* behavioral responses are limited to individuals who are in good, very good, or excellent health and have no health-related work limitations. We project that about 44 percent of all beneficiaries aged 60 or older in poverty in 2030 would be in fair or poor health and about 10 percent would have health-related work limitations. We do not change the behavior of those individuals, which is reflected in the small change in the poverty rate for those groups. In addition, almost a third of individuals in poverty would be receiving disability benefits and would therefore not be subject to either the policy change or the behavioral responses.

As noted previously, the early retirement reductions and DRCs are roughly actuarially fair for the average beneficiary over a lifetime. By changing the early retirement reductions, lifetime benefit amounts would change compared with scheduled benefits. As Chart 9 shows, the static and both behavioral

**Table 8.****Median percentage change in benefits for affected beneficiaries aged 60 or older, compared with scheduled benefits, 2030: Static and behavioral-response simulations**

Claim age	Change reductions alone (static)		Change reductions plus more-likely behavioral response		Change reductions plus best-case behavioral response	
	Lower benefit	Higher benefit	Lower benefit	Higher benefit	Lower benefit	Higher benefit
Overall	a	+3	-100	+4	-100	+5
62 or younger	a	+2	-100	+11	-100	+12
63–66	a	+3	a	+4	a	+4
67 or older	a	+2	a	+2	a	+2

SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

a. Insufficient sample size

**Table 9.****Poverty rate effects for beneficiaries aged 60 or older, by selected characteristics, 2030: Static and behavioral-response simulations**

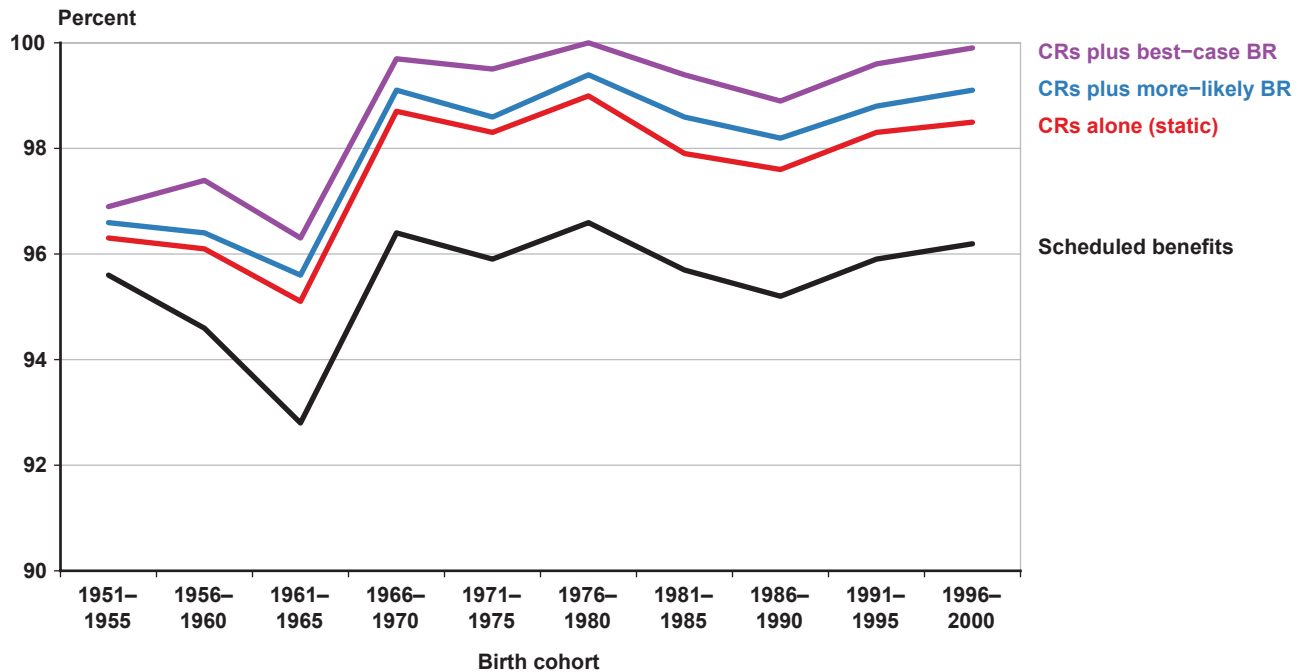
Characteristic	Projected poverty rate under current law (%)	Poverty rate effect (percentage point change)		
		Change reductions alone (static)	Change reductions plus more-likely behavioral response	Change reductions plus best-case behavioral response
Overall	3.1	0.0	0.0	0.0
Claim age				
62 or younger	4.7	0.0	0.0	0.0
63–66	1.4	-0.1	-0.1	-0.1
67 or older	1.7	0.0	0.0	0.0
Individual non-Social Security income quintile				
Highest	0.0	0.0	0.0	0.0
2nd highest	0.0	0.0	0.0	0.0
Middle	0.0	0.0	0.0	0.0
2nd lowest	0.0	0.0	0.0	0.1
Lowest	15.8	-0.2	-0.2	-0.3
Education				
Graduate	0.6	0.0	-0.1	-0.1
Bachelor	1.1	0.0	0.0	0.1
Associate	2.5	0.0	0.0	0.0
High school	4.3	-0.1	-0.1	-0.1
Less than 12 years	9.8	-0.1	-0.1	0.0

SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

simulations result in higher median lifetime benefit/tax ratios, which compares the lifetime value of Social Security benefits received with the lifetime value of taxes paid (Leimer 1995). Compared with current law, the lifetime benefit/tax ratio under the policy option alone would be about 2 percentage points higher; under the *more-likely* behavioral scenario, the ratio would be about 2.5 percentage points higher; and

under the *best-case* behavioral scenario, it would be about 3 percentage points higher. This is the result of beneficiaries receiving a permanently increased benefit through increased reduction factors (for example, 8 percent a year instead of 5 percent from age 62 to 63), and in the case of the behavioral responses, a permanently increased benefit because of 1 year of delayed claiming.

**Chart 9.**  
**Median lifetime benefit/tax ratio for beneficiaries aged 60 or older, by birth cohort**



SOURCE: Authors' calculations using Modeling Income in the Near Term, Version 6 projections.

NOTE: BR = behavioral response; CRs = change reductions.

## Discussion

Motivated by the notion that the retirement benefit-incentive structure currently in place at SSA may not effectively encourage individuals to delay claiming until reaching their FRA, we used previous behavioral and psychological research to present ideas for new incentives. Because the majority of Americans claim retirement benefits before reaching their FRA, we find that incentives targeted to persons who claim early affect a larger portion of the beneficiary population than do the current incentives. The tendency for individuals to want to claim early—which is consistent with present bias—suggests that the most successful incentives to delay claiming should take into account the fact that individuals have a difficult time forfeiting immediate, albeit smaller, benefits for larger benefits in the future. Introducing new incentives, where the greatest advantages to delaying claiming occur sooner, could help prospective retirees delay claiming in the years before their FRA, thereby permanently increasing their monthly benefits.

Our simulation shows that changing the early retirement reductions to provide larger benefit increases

in the earliest post-EEA years would result in benefit increases for about a third of beneficiaries in 2030. Adding a *more-likely* behavioral response and then expanding the number of individuals whose behavior changes with the *best-case* behavioral response would increase the proportion of individuals who could potentially receive higher benefits. The most noticeable benefit increase from 1 year of delayed claiming would occur for persons who claim at age 62 under current law. Under the static option, however, the median benefit increase for that group would be 2 percent; under the *more-likely* and *best-case* behavioral responses, the median benefit increase would be 11 percent and 12 percent, respectively. Although the static option alone would provide higher benefits to about a quarter of individuals in the lowest income quintile and at the lowest education levels, incentivizing more of those individuals to delay claiming would result in even larger proportions of people in those groups that have higher benefits. Poverty rates would also decline slightly for persons in the lowest individual income quintile under all three scenarios. Compared with current law, lifetime benefits would increase across all birth cohorts through permanently



increased benefits from the higher annual early retirement reductions under the static option and the 1 year of delayed claiming under the two behavioral responses.

As with any simulation of a behavioral response to a policy change, it is difficult to determine exactly who would be affected; we have no way of distinguishing conclusively who would or would not change their behavior in response to the proposed change. Nevertheless, we can make predictions regarding who may be more or less likely to change their behavior based on relevant characteristics and previous research. In the case of the simulations presented here, we decided to limit the sample of likely responders to the policy change to those who are in good, very good, or excellent health and have no health-related work limitations. Persons who are more likely to delay claiming in response to the proposed incentives should be *able* to delay claiming; that is, they are likely not in poor health, which might limit their ability to remain in the workforce. This is also in keeping with the finding that primary reasons for retiring earlier than expected are health problems or a disability (Helman and others 2014). Our *best-case* scenario assumes that everyone in good health and without work limitations would respond to an incentive to delay claiming. In terms of income, we argue that persons who are in the highest quintiles for individual non-Social Security income are more likely to be able to support themselves financially without having to claim benefits. For those individuals, delaying claiming may be a more feasible prospect than it is for persons with lower incomes. The same might be true for individuals with at least an associate degree, which may allow for greater job prospects. These additional restrictions on the selected sample were chosen to simulate a behavioral response that we argue is *more likely* to occur.

Of course, the incentives presented here may be strong enough to encourage even persons in poor health and with work limitations to delay claiming in the years before their FRA. In that case, we would expect an even stronger effect of the incentive than what is described in the current simulation. People may delay claiming by more than 1 year; more people could respond to the change; and relevant outcome measures, such as the poverty rate and the monthly benefit amount, would see even more of a decrease or increase than what is currently described. On the other hand, the incentive modeled in our study may have a weaker effect than what is projected, potentially affecting a smaller portion of the beneficiary

population or encouraging a weaker behavioral effect (that is, less than a 1-year change in delayed claiming behavior). If this is the case, then the outcome of the incentive change would be less pronounced than what is currently projected.

Further, we only model one incentive for simplicity and to show how an example of an incentive to delay claiming behavior could affect benefits in the future. We present a number of incentives that we do not explicitly model, such as instituting a lottery or making the RET more strict, which could also affect delayed claiming behavior differently from what is projected in our simulation of changing early retirement reductions. Any or all of those additional incentives could have a stronger or weaker effect than the incentive we model, and instituting a combination of them could create even more varied results. It is also possible that some of the proposed incentives could have a differential impact on individuals with particular demographic characteristics. For example, research exploring the use of lotteries as an incentive to save has shown that they are particularly effective among low earners (Guillén and Tschoegl 2002). We might expect, then, that instituting a lottery as an incentive to delay claiming might be particularly appealing to those in the lower income quintiles. If so, this particular incentive could produce an even more pronounced effect on benefits for low-income retirees than what is projected in our simulation.

Future research could explore different effects of the various incentives presented here, by changing the affected population, the size of the behavioral response, and the type and combination of incentives introduced. Recommending and prioritizing the various incentives presented in our study, in addition to making value judgments regarding which incentives should be implemented, are beyond the scope of this article; nonetheless, the ideas presented herein could help policymakers consider new ways to encourage individuals to claim retirement benefits later than they currently do.

## **Conclusion**

Claiming Social Security retirement benefits before the FRA results in permanently lower benefits, while delaying claiming permanently increases benefits. The tendency to claim retirement benefits at the EEA results in a large portion of the beneficiary population forfeiting significant amounts of money. Creating incentives that more effectively encourage individuals to *not* claim benefits as early as possible could have a

significant impact on the financial well-being of older Americans. The novel approaches to incentivizing delayed claiming presented here use insights from behavioral and psychological research and shift the focus on delaying claiming to the earliest-eligibility retirement years, rather than the traditional focus on delaying claiming past the FRA.

## Notes

*Acknowledgments:* The authors thank Barbara A. Smith, Andrew Biggs, Nicole Montgomery, Mark Sarney, and Natalie Lu for their helpful comments and suggestions.

<sup>1</sup> For the FRA chart, see <http://www.socialsecurity.gov/retire2/retirechart.htm>.

<sup>2</sup> For more information on DRCs, see <http://www.socialsecurity.gov/retire2/delayret.htm>.

<sup>3</sup> For more information on the actuarial fairness of Social Security benefits, see Munnell and Sass (2012).

<sup>4</sup> For more information on the spousal benefit-reduction factors, see <http://www.socialsecurity.gov/OACT/quickcalc/earlyretire.html>.

<sup>5</sup> If a person claims spousal benefits before his or her FRA, a claim is also automatically made for a retired-worker benefit on his or her record if eligible to receive one. For more information on spousal benefits, see <http://www.socialsecurity.gov/retire2/yourspouse.htm>.

<sup>6</sup> The FRA for survivor beneficiaries is different from that for retired workers and spouses. For more information, see <http://www.socialsecurity.gov/survivorplan/survivorchartred.htm>.

<sup>7</sup> If a person claims survivor benefits before age 62 and that individual is eligible to receive benefits on his or her own record, he or she can decide when retirement benefits will start at any age from 62 to 70. For more information on survivor benefits, see <http://www.socialsecurity.gov/survivorplan/ifyou5.htm>.

<sup>8</sup> The 1956 Amendments also allowed widows and female dependent parents to receive unreduced benefits at age 62.

<sup>9</sup> The 1961 Amendments also allowed widowers and male dependent parents to receive unreduced benefits at age 62.

<sup>10</sup> For more information on the RET, see <http://www.socialsecurity.gov/OACT/COLA/rtea.html>.

<sup>11</sup> For more information on these changes to the Social Security program, see <http://www.socialsecurity.gov/history/reports/crsleghist2.html>.

<sup>12</sup> The claiming data presented in Charts 1 and 2 show benefits awarded to individuals by year of award and age at award. Presenting claiming data for a specific birth cohort can reflect different claiming patterns. For more information on this “cohort effect,” see Muldoon and Kopcke (2008).

<sup>13</sup> MINT6 is based on the 2001 and 2004 Survey of Income and Program Participation (SIPP) panel data matched to SSA data. For more information, see <http://www.socialsecurity.gov/retirementpolicy/projection-methodology.html>.

<sup>14</sup> We do not include disabled beneficiaries in our analysis because they do not have to make a decision about when to claim retirement benefits (they receive disability benefits at the time they become disabled and automatically convert to retirement benefits when they reach their FRA).

<sup>15</sup> Other sources included in the individual income quintile measure are means-tested income, nonmeans-tested income, and Supplemental Security Income. We calculate the quintiles for each year for all beneficiaries aged 60 or older.

<sup>16</sup> MINT6 uses self-reported SIPP health-status measures as starting values for individuals aged 51 or older and projects them through age 67. For persons aged 68 or older, the health-status estimates come from the 1990 SIPP.

<sup>17</sup> MINT6 projects mortality using two separate procedures that are roughly calibrated to the intermediate assumptions of the *Social Security Trustees Report*. These mortality projections are based on variables including disability status, education, income, and marital status.

<sup>18</sup> However, this age group experienced high rates of unemployment during the recession, reaching a high of 7.2 percent in December 2009 (Sok 2010). By September 2014, the Bureau of Labor Statistics’ *Economic News Release* table on selected unemployment indicators (<http://www.bls.gov/news.release/empsit.t10.htm>) estimated that the unemployment rate for individuals aged 55 or older was 3.9 percent.

<sup>19</sup> \$1,370 is the average primary insurance amount (that is, the unreduced benefit) in 2014 for nondisabled beneficiaries who are fully insured at age 62 (that is, our sample population, which is discussed in the Current Trends in Social Security Benefit Claiming Behavior section).

<sup>20</sup> Orszag (2001) strongly cautioned against offering a lump-sum payment to individuals before their FRA. He argued that allowing individuals younger than the FRA to opt for a lump-sum payment instead of an increased monthly payment would significantly increase poverty rates among the elderly. This is primarily because individuals would be more likely to spend the lump sum rather than save it, thereby negating the increased protection against old-age poverty that delaying claiming provides. However, behavioral economics research has shown that individuals are more likely to save larger sums of money, but more likely to spend smaller amounts (Chambers and Spencer 2008; Johnson, Parker, and Souleles 2004; Shapiro and Slemrod 2003a, 2003b). Following this notion, individuals may be more likely to save portions of a lump-sum benefit than they would the piecemeal distributions of an increased annuity payment.

<sup>21</sup> For more information on the amount of earnings subject to taxation and used in the benefit computation, see <http://www.socialsecurity.gov/OACT/COLA/cbb.html>.

<sup>22</sup> Eliminating or liberalizing the RET has also been found to increase earnings (Song and Manchester 2007b; Haider and Loughran 2008; Figinski 2012) and labor force participation (Friedberg and Webb 2009; Song and Manchester 2007b; Figinski 2012); therefore, making the RET more stringent could result in reduced earnings and labor force participation.

## References

- Advisory Council Report on Social Security. 1948. *1948 Advisory Council Report—Old-Age and Survivors Insurance*. <http://www.socialsecurity.gov/history/reports/48advise5.html>.
- Ball, Robert M. 1973. "Social Security Amendments of 1972: Summary and Legislative History." *Social Security Bulletin* 36(3): 3–25. <http://www.socialsecurity.gov/policy/docs/ssb/v36n3/v36n3p3.pdf>.
- Beehr, Terry A., Sharon Glazer, Norma L. Nielson, and Suzanne J. Farmer. 2000. "Work and Nonwork Predictors of Employees' Retirement Ages." *Journal of Vocational Behavior* 57(2): 206–225.
- Bidewell, John, Barbara Griffin, and Beryl Hesketh. 2006. "Timing of Retirement: Including a Delay Discounting Perspective in Retirement Models." *Journal of Vocational Behavior* 68(2): 368–387.
- Brodricks, Cynthia E. 2004. "What to Do After You Win the Lottery." Bankrate. <http://www.bankrate.com/brm/news/advice/19990902b.asp>.
- Brown, Jeffrey R., Marcus D. Casey, and Olivia S. Mitchell. 2007. "Who Values the Social Security Annuity? New Evidence on the Annuity Puzzle." NBER Retirement Research Paper No. NB 07-02. Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/programs/ag/rrc/NB07-02%20Brown,Casey,Mitchell%20FINAL.pdf>.
- Brown, Jeffrey R., Arie Kapteyn, Erzo F. P. Luttmer, and Olivia S. Mitchell. 2011. "Do Consumers Know How to Value Annuities? Complexity as a Barrier to Annuitization." Working Paper No. WR-924. Santa Monica, CA: RAND Corporation. [http://www.rand.org/pubs/working\\_papers/WR924.html](http://www.rand.org/pubs/working_papers/WR924.html).
- Bukszpan, Daniel. 2011. "Claiming Social Security Benefits Early." CNBC (December 29). <http://www.cnbc.com/id/45817447>.
- Burtless, Gary, and Joseph F. Quinn. 2002. "Is Working Longer the Answer for an Aging Workforce?" Issue in Brief No. 11. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Chai, Jingjing, Raimond Maurer, Olivia S. Mitchell, and Ralph Rogalla. 2013. "Exchanging Delayed Social Security Benefits for Lump Sums: Could this Incentivize Longer Work Careers?" NBER Working Paper No. 19032. Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w19032>.
- Chambers, Valrie, and Marilyn Spencer. 2008. "Does Changing the Timing of a Yearly Individual Tax Refund Change the Amount Spent vs. Saved?" *Journal of Economic Psychology* 29(6): 856–862.
- Cohen, Wilbur J., and William L. Mitchell. 1961. "Social Security Amendments of 1961: Summary and Legislative History." *Social Security Bulletin* 24(9): 3–11, 33. <http://www.socialsecurity.gov/policy/docs/ssb/v24n9/v24n9p3.pdf>.
- Coile, Courtney, Peter Diamond, Jonathan Gruber, and Alain Jouten. 2002. "Delays in Claiming Social Security Benefits." *Journal of Public Economics* 84(3): 357–385.
- Cylke, Steven, Mathew S. Goldberg, Paul Hogan, and Lee Mairs. 1982. "Estimation of the Personal Discount Rate: Evidence from Military Reenlistment Decisions." Professional Paper 356. Alexandria, VA: Center for Naval Analyses. <https://cna.org/sites/default/files/research/5500035600.pdf>.
- DeWitt, Larry. 1999. "The History and Development of the Social Security Retirement Earnings Test." Social Security Administration, Special Study #7 (August). <http://www.socialsecurity.gov/history/ret2.html>.
- . 2000. "Brief Legislative History of the Retirement Earnings Test." Social Security Administration, Research Note #7 (April). <http://www.socialsecurity.gov/history/ret.html>.
- Englebrecht, Ted D., and Mary M. Anderson. 2007. Valuation of Lottery Prize Payments for Estate Tax Purposes: An Analysis. *The CPA Journal*. <http://encorefunding.com/CPA-Journal.pdf>.
- Fetherstonhaugh, David, and Lee Ross. 1999. "Framing Effects and Income Flow Preferences in Decisions about Social Security." In *Behavioral Dimensions of Retirement Economics*, chapter 6, edited by Henry J. Aaron, 187–209. Washington, DC: Brookings Institution Press and Russell Sage Foundation.
- Figinski, Theodore F. 2012. *Women and the Social Security Earnings Test*. Irvine, CA: University of California, Irvine.
- Friedberg, Leora, and Anthony Webb. 2009. "New Evidence on the Labor Supply Effects of the Social Security Earnings Test." In *Tax Policy and the Economy*, Vol. 23, edited by Jeffrey R. Brown and James M. Poterba, 1–35. Chicago, IL: University of Chicago Press. <http://www.nber.org/chapters/c10570>.



- Guillén, Mauro, and Adrian Tschoegl. 2002. "Banking on Gambling: Banks and Lottery-Linked Deposit Accounts." *Journal of Financial Services Research* 21(3): 219–231.
- Gustman, Alan L., and Thomas L. Steinmeier. 2002. "Retirement and Wealth." *Social Security Bulletin* 64(2): 66–91. <http://www.socialsecurity.gov/policy/docs/ssb/v64n2/v64n2p66.pdf>.
- Haider, Steven J., and David S. Loughran. 2008. "The Effect of the Social Security Earnings Test on Male Labor Supply: New Evidence from Survey and Administrative Data." *Journal of Human Resources* 43(1): 57–87. <https://www.msu.edu/~haider/Research/2008-jhr-published.pdf>.
- Helman, Ruth, Nevin Adams, Craig Copeland, and Jack VanDerhei. 2014. "The 2014 Retirement Confidence Survey: Confidence Rebounds—for Those With Retirement Plans." EBRI Issue Brief No. 397. Washington, DC: Employee Benefit Research Institute. [http://www.ebri.org/pdf/surveys/rcs/2014/EBRI\\_IB\\_397\\_Mar14.RCS.pdf](http://www.ebri.org/pdf/surveys/rcs/2014/EBRI_IB_397_Mar14.RCS.pdf).
- Johnson, David S., Jonathan A. Parker, and Nicholas S. Souleles. 2004. "Household Expenditure and the Income Tax Rebates of 2001." NBER Working Paper No. 10784. <http://www.nber.org/papers/w10784>.
- Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica* 47(2): 263–292.
- Knoll, Melissa A. Z. 2011. "Behavioral and Psychological Aspects of the Retirement Decision." *Social Security Bulletin* 71(4): 15–32. <http://www.socialsecurity.gov/policy/docs/ssb/v71n4/v71n4p15.html>.
- Knoll, Melissa A. Z., Kirstin C. Appelt, Eric J. Johnson, and Jonathan E. Westfall. Forthcoming. "Time to Retire: Why Americans Claim Benefits Early and How to Encourage Delay." Manuscript submitted for publication.
- Laibson, David. 1997. "Golden Eggs and Hyperbolic Discounting." *Quarterly Journal of Economics* 112(2): 433–477. [http://scholar.harvard.edu/files/laibson/files/golden\\_eggs\\_and\\_hyperbolic\\_discounting.pdf](http://scholar.harvard.edu/files/laibson/files/golden_eggs_and_hyperbolic_discounting.pdf).
- Leimer, Dean R. 1995. "A Guide to Social Security Money's Worth Issues." *Social Security Bulletin* 58(2): 3–20. <http://www.socialsecurity.gov/policy/docs/ssb/v58n2/v58n2p3.pdf>.
- Loewenstein, George, and Drazen Prelec. 1992. "Anomalies in Intertemporal Choice: Evidence and an Interpretation." *The Quarterly Journal of Economics* 107(2): 573–597. <http://www.jstor.org/stable/pdfplus/2118482.pdf>.
- Mastrobuoni, Giovanni. 2006. "The Social Security Earnings Test Removal. Money Saved or Money Spent by the Trust Fund?" Working Paper No. 513. Princeton, NJ: Princeton University, Industrial Relations Section. <http://dataspace.princeton.edu/jspui/bitstream/88435/dsp014f16c2818/1/513A.pdf>.
- McClure, Samuel M., David I. Laibson, George Loewenstein, and Jonathan D. Cohen. 2004. "Separate Neural Systems Value Immediate and Delayed Monetary Rewards." *Science* 306(5695): 503–507.
- Muldoon, Dan, and Richard W. Kopcke. 2008. "Are People Claiming Social Security Benefits Later?" CRR Policy Brief No. 8-7. Chestnut Hill, MA: Center for Retirement Research at Boston College. [http://crr.bc.edu/wp-content/uploads/2008/05/ib\\_8-7.pdf](http://crr.bc.edu/wp-content/uploads/2008/05/ib_8-7.pdf).
- Munnell, Alicia H., and Steven A. Sass. 2008. *Working Longer: The Solution to the Retirement Income Challenge*. Washington, DC: Brookings Institution Press.
- . 2012. "Can the Actuarial Reduction for Social Security Early Retirement Still Be Right?" CRR Policy Brief No. 12-6. Chestnut Hill, MA: Center for Retirement Research at Boston College. [http://crr.bc.edu/wp-content/uploads/2012/03/IB\\_12-6-508.pdf](http://crr.bc.edu/wp-content/uploads/2012/03/IB_12-6-508.pdf).
- National Commission on Fiscal Responsibility and Reform. 2010. *The Moment of Truth*. Report of the National Commission on Fiscal Responsibility and Reform. Washington, DC: NCFRR.
- Olsen, Anya, and Kathleen Romig. 2013. "Modeling Behavioral Responses to Eliminating the Retirement Earnings Test." *Social Security Bulletin* 73 (1): 39–58. <http://www.socialsecurity.gov/policy/docs/ssb/v73n1/v73n1p39.html>.
- Orszag, Peter R. 2001. "Should a Lump-sum Payment Replace Social Security's Delayed Retirement Credit?" Issue in Brief No. 6. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Poterba, James M., Steven F. Venti, and David A. Wise. 2011. "The Drawdown of Personal Retirement Assets." NBER Working Paper No. 16675. Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w16675.pdf>.
- Shapiro, Matthew D., and Joel Slemrod. 2003a. "Consumer Response to Tax Rebates." *American Economic Review* 93(1): 381–396.
- . 2003b. "Did the 2001 Tax Rebate Stimulate Spending? Evidence from Taxpayer Surveys." In *Tax Policy and the Economy*, Vol. 17, edited by James M. Poterba, 83–110. Cambridge, MA: National Bureau of Economic Research and MIT Press.
- Shoven, John B., and Sita N. Slavov. 2013. "Efficient Retirement Design: Combining Private Assets and Social Security to Maximize Retirement Resources." Shoven-Slavov Retirement Booklet. [http://siepr.stanford.edu/system/files/shared/documents/Efficient\\_Retirement\\_Design-March\\_2013b.pdf](http://siepr.stanford.edu/system/files/shared/documents/Efficient_Retirement_Design-March_2013b.pdf).
- [SSA] Social Security Administration. 2008. "Social Security Benefits: Benefit Reduction for Early Retirement." <http://www.socialsecurity.gov/OACT/quickcalc/earlyretire.html>.

- . 2010. “Social Security Benefits: Effect of Early or Delayed Retirement on Retirement Benefits.” [http://www.socialsecurity.gov/OACT/ProgData/ar\\_drc.html](http://www.socialsecurity.gov/OACT/ProgData/ar_drc.html).
- . 2012. *Income of the Aged Chartbook, 2010*. Washington, DC: SSA. [http://www.socialsecurity.gov/policy/docs/chartbooks/income\\_aged/2010/index.html](http://www.socialsecurity.gov/policy/docs/chartbooks/income_aged/2010/index.html).
- . 2014. *Annual Statistical Supplement to the Social Security Bulletin, 2013*. Washington, DC: Office of Retirement and Disability Policy, Office of Research, Evaluation, and Statistics. <http://www.socialsecurity.gov/policy/docs/statcomps/supplement/2013/index.html>.
- . n.d. *Delayed Retirement Credits Fact Sheet*. <http://www.socialsecurity.gov/pressoffice/DlyRetCrdtFactSheet.html>.
- Sok, Emy. 2010. “Record Unemployment Among Older Workers Does Not Keep Them Out of the Job Market.” Issues in Labor Statistics, Summary 10-04 (March). [http://www.bls.gov/opub/ils/summary\\_10\\_04/older\\_workers.htm](http://www.bls.gov/opub/ils/summary_10_04/older_workers.htm).
- Song, Jae G. 2003/2004. “Evaluating the Initial Impact of Eliminating the Retirement Earnings Test.” *Social Security Bulletin* 65(1): 1–15. <http://www.socialsecurity.gov/policy/docs/ssb/v65n1/v65n1p1.html>.
- Song, Jae G., and Joyce Manchester. 2007a. “How Have People Responded to Changes in the Retirement Earnings Test in 2000?” *Social Security Bulletin* 67(1): 1–15. <http://www.socialsecurity.gov/policy/docs/ssb/v67n1/v67n1p1.html>.
- . 2007b. “New Evidence on Earnings and Benefit Claims Following Changes in the Retirement Earnings Test in 2000.” *Journal of Public Economics* 91(3–4): 669–700.
- SSA. See Social Security Administration.
- Wise, David A. 1997. “Retirement Against the Demographic Trend: More Older People Living Longer, Working Less, and Saving Less.” *Demography* 34(1): 83–95.