Do late-career wages boost Social Security more for women than men?

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Abstract

Any worker who delays claiming Social Security receives a larger monthly benefit due to the actuarial adjustment. Some claimants – particularly women, who are more likely to take time out of the labor force early in their careers – can further increase their benefits if the extra years of work raise their career average earnings by displacing lower-earning years. This study uses the *Health and Retirement Study* (HRS) linked to earnings records to quantify the impact of women's late-career earnings on Social Security benefits relative to men's. It also compares the impact on women, depending on their marital status and education.

The paper found that:

- Most workers of both genders are able to raise their Social Security retirement benefits at least a little, but women do so in large part by replacing zero-earning years: nearly half of women had a year with zero earnings in their top 35 years of earnings.
- The average gain in Social Security retirement benefits from working one additional year raises women's monthly benefits by 8.6 percent – 7 percent is from the actuarial adjustment and an additional 1.6 percent is from late-career earnings. Men's benefits increase by less – only 7.8 percent – because they have fewer low-earning years to replace.
- Women who delay retirement all the way to their 70th birthdays increase their benefits by 76 percent from the actuarial adjustment, and 12 percent from late-career earnings; this total increase of 88 percent compares to 82 percent for men.
- The gains from working until 70, and the amount attributable to higher earnings, are roughly equal for divorced and continually married women, and for better- and less-educated women.

The policy implications of the findings are:

- Citing the 76 percent increase in benefits due to the actuarial adjustment sells short how much delayed claiming can increase Social Security income, especially among women.
- Because most workers – and especially women – have low-earning years to replace, efforts to further increase the retirement age are likely to increase Social Security benefits by increasing workers' career average earnings.

Introduction

Delaying claiming as much as possible – from age 62 to 70 – increases Social Security benefits by 76 percent for workers born in 1943-1954. This feature is due to the actuarial adjustment, which aims to ensure that the expected present value of lifetime benefits for workers with average mortality varies little by claiming age.[1] But monthly benefits can increase even more if late-career earnings displace zero- or lower-earning years in their careers, thereby raising the average career earnings used to calculate benefits. Women, in particular, stand to gain from longer careers, as late-career earnings are more likely to replace years lost to childrearing and elder care.

This study uses *Health and Retirement Study* data linked to Social Security earnings records to quantify the extent to which late-career earnings increase workers' benefits, focusing in particular on how women boost their benefits relative to men.

The results indicate that the total gain in Social Security income from delaying claiming from age 62 to 70 is 85 percent for the full sample – 76 percent of this gain is from the actuarial adjustment alone (for individuals born in 1943 or later) and 9 percent from the increase in career average earnings. The portion attributable to the increase in the career average earnings is substantial, because the vast majority of individuals have late-career earnings that surpass their earnings earlier in their careers. Women in particular have an opportunity to increase their benefits, because nearly one-half of women have at least one year with no earnings among their top 35 years. Women's Social Security benefits rise by 88 percent from delaying retirement until age 70 (for all cohorts combined), compared to 82 percent for men. Even delaying retirement by any one year (on average across ages) increases benefits by 8.6 percent for women, of which 1.6 percent is from replacing low-earning years. These gains in monthly benefits are consistent among women, regardless of marital status and education.

This paper is laid out as follows. The next section explains how late-career earnings factor into the calculation of Social Security benefits and reviews the literature on the extent to which working at older ages increases benefits. A description of the data and an outline of the

[1] In part because the actuarial adjustment was based on mortality rates from the early 1960s, delaying claiming – at least past the Early Entitlement Age of 62 – increases the present discounted value of lifetime Social Security benefits for almost all groups (at least at current interest rates), despite well-known differences in life expectancy by socioeconomic status (Shoven and Slavov 2014; Sanzenbacher and Ramos-Mercado 2016).

empirical methodology follows. The subsequent section presents the results, and the final section concludes that working longer helps older individuals – especially women – substantially increase their Social Security income, not just by delaying when they claim but also because late-career work supersedes earlier, low-earning years.

Background

Calculating Social Security benefits. Social Security retirement benefits are available to individuals who have spent a sufficiently long time contributing payroll taxes into the Social Security system. Workers are entitled to retirement benefits if they have accumulated 40 quarters of coverage – earning as many as four per year, one for each multiple of $1,260 (in 2016 dollars) – and have reached at least age 62.

The value of retirement benefits is based on workers' Average Indexed Monthly Earnings (AIME), which is the average of their highest 35 years of wage-inflation-indexed earnings (divided by 12). The calculation includes zeroes for workers with fewer than 35 years of earnings. Workers with gaps in their careers, therefore, stand to gain substantially from further years of work, as replacing zeroes with even fairly small full-time or full-year wages will greatly raise their AIMEs. Even workers whose employment records do not have full years of zero earnings can increase their AIMEs if they have low-earning years, because they experienced long spells of non-employment, earned low hourly wages, or worked few hours per week.

Calculating the actual Social Security benefit requires two more steps. One is converting the AIME to a Primary Insurance Amount (PIA), based on a progressive benefit formula that allows low earners to keep a greater share of their AIME. The PIA formula reduces the potential return to working longer: if late-career earnings increase the AIME by one dollar, the PIA increases by 90 cents for workers with very low career earnings; by 32 cents for most workers; but by only 15 cents for higher earners.

The other step is the actuarial adjustment, which results in benefits that are less than the PIA when workers claim their benefits before their Full Retirement Age (FRA) and benefits that exceed the PIA when workers claim after the FRA. The amount of the increase from delaying claiming by one extra year varies across birth cohorts because of an increase over time in the FRA – which necessitates different adjustments for early claiming – and because of the gradual actuarial increase in the delayed retirement credit received by those who wait past their FRA.

For our sample of individuals born in 1931-1950, the gain from waiting an extra year – without any increase in the PIA – is as small as 4.2 percent and as large as 8.3 percent (Appendix Table A1).[2]

Delayed retirement, therefore, has the potential to increase Social Security retirement benefits in two ways. First, claiming later increases Social Security benefits due to the actuarial adjustment. Second, if the worker can earn more than his 35th-best year to date – and especially if his 35th-best year had no earnings at all – his AIME will increase, which, in turn, increases his PIA and his retirement benefit.

Previous literature. Despite the obvious potential for increased Social Security benefits from additional years of work, little is known about the impact of late-career earnings replacing the zero- or low-earning years early in a worker's career. Most previous studies examining the returns to late-career employment limit their analysis to stylized households with consistent histories of earning near the average wage.[3] One example is Butrica, Toder, and Toohey (2008), who examine the potential gain for higher- and lower-earning households. They characterize the potential gain from lower-income workers extending claiming from 62 to 67 as modest but not insubstantial. But none of these studies use actual earnings records that would account for the fact that individuals often have gaps in their earnings records when they are out of work or experience periods of low earnings. Furthermore, these studies generally do not decompose the gain in retirement benefits to its two components: the actuarial adjustment and the increase in their career average earnings (via a higher PIA).

To our knowledge, the only paper that uses actual workers' earnings records to examine the gains from working an extra year – Reznick, Weaver, and Biggs (2009) – focuses on Social Security's implicit rate of return. While their analysis reflects the net benefit of working and paying payroll taxes for an additional year, their focus on the marginal rate of return measure does not decompose the gain from working longer into the actuarial adjustment and the replacement of low-earning years. Indeed, their analysis does not address the simple but relevant

[2] The minimum increase of 4.2 percent is for individuals born in 1931-1932 who postpone claiming from their 69th birthdays (at which time they receive 120 percent of their PIA) to their 70th birthdays (125 percent of their PIA; 125/120 – 100 = 4.2 percent). The maximum increase is for individuals born in 1943 or later who postpone claiming from 66 (100 percent of their PIA) to 67 (108 percent of their PIA).

[3] See Butrica et al. (2004); Coile et al (2002); Gokhale, Kotlikoff, and Sluchynsky (2002); and Kotlikoff and Rapson (2007).

question of how many years of such earnings are replaced by continued work – and how women, in particular, benefit from delayed retirement.[4]

Our paper focuses on the potential gain in retirement income – relative to pre-retirement earnings – for women with gaps in their earnings histories. In contrast to the marginal internal rate of return on an additional year's contributions, which measures the relationship between additional taxes and additional benefits, the dollar value of the benefit used here provides a direct measure of the effect of delay on women's well-being in the short run. The paper will present, to our knowledge, the first decomposition of the increase in Social Security income into the actuarial adjustment and the replacement of low-earning years using actual women's earnings histories.

The effect of Social Security on women's retirement has changed greatly over the past few decades. As women approach earnings parity with men, they will come to rely less on spousal benefits (Wu et al. 2013), and the benefit of delayed retirement is likely only to increase. But little is known about how much Social Security income they are currently leaving on the table. The findings of this study will inform assessments of how delaying retirement has already increased benefits for women, and how increases in their retirement ages will further help secure their household's retirement well-being.

Data and Methodology

This study uses the 1992-2012 HRS linked to U.S. Social Security Administration's Summary Earnings Records, which capture earnings histories (up to the taxable maximum) for most respondents in the HRS through 2013. Having complete earnings histories allows for counterfactual calculations of what the AIME would have been if respondents had stopped working earlier in their careers.

The sample for this analysis consists of HRS respondents born between 1931 and 1950, who reach age 62 by the end of the HRS sample window and who collect benefits on their own earnings records (i.e., no spousal beneficiaries). Much of the analysis is presented separately by gender. We also present separate analyses for subsamples of women grouped by marital status

[4] Reznick, Weaver, and Biggs (2009) find that most women ages 62-65 in 2005 gain nothing from an extra year of work because they are likely to receive the spousal benefit, or just a little more than the spousal benefit, regardless of their earnings in that year. But they also find that the gains for women grow considerably in later cohorts where spousal benefits are less prevalent.

and education. The marital status analysis splits the sample between 1) women who have been married at least once but never divorced (continually married); and 2) women who have been divorced (even if they subsequently remarried).[5] Continually married women are more likely to have gaps in their earnings records, because they took time off to raise children or take of elders, or because of preferences for a single-earner households. The educational analysis splits the sample between women with a high school degree or less and women with some college experience or more.

The aim of this project is to quantify the degree to which women who work longer increase their Social Security benefits, relative to the gains for men. As part of this analysis, we report the proportion of individuals who increased their PIAs by earning more during any year of post-62 employment than their previous 35th-best year. The analysis also quantifies the proportion of workers who replace zero-earning years with earnings after age 62.

The primary outcome of interest is the increase in Social Security benefits at each age between 63 and the last year of positive earnings, based on actual earnings that year, and how that increase decomposes into PIA increases and gains from the actuarial adjustment for delayed claiming.

Social Security benefits are calculated at each age between 62 and 70 for every individual. For each year after one's 62nd birthday in which an individual had not yet claimed Social Security benefits and had positive earnings, we calculate the gain in Social Security benefits from working that additional year.[6] To determine how much of the increase in benefits is due to the extra year of earnings, we also calculate the gain in the PIA from that additional year. The remaining difference in Social Security benefits from one year to the next is attributed to the actuarial adjustment.[7] The gain in benefits is reported separately for each age, and as an unweighted average for all workers at all ages; the average is calculated only for workers with gains in their Social Security benefits and their PIAs.

[5] Widows are included in both groups, based on their marital histories.
[6] Benefits are calculated using the last full year of earnings before each person's birthday. For example, we calculate the benefits for an individual turning 63 in 2005 using earnings data ending in 2004.
[7] The difference in PIA is taken before the PIA receives a Cost of Living Adjustment (COLA). We do this because our goal is to capture the influence of an extra year of earnings rather than the increase in PIA resulting from an inflation adjustment. The increase in Social Security benefit attributed to the actuarial adjustment includes this COLA calculation.

We then construct the gain in Social Security benefits from delaying both claiming and retirement from age 62 all the way to one's 70th birthday. We assume that all workers face the actuarial adjustment of the cohort born in 1943-1950, which gains 76 percent for delaying claiming until age 70. The portion of the gain in benefits attributable to the PIA assumes a worker would get the average gain in the PIA observed among *all* people working at each age.[8] The total increase in the benefit is the increase in the actuarial adjustment plus the increase from late-career earnings.

Results

Table 1 reports the proportion of people working past age 62 whose earnings increase their Primary Insurance Amount, and the share whose earnings replace a zero-earning year from earlier in their career. The far left panel indicates that, overall, about 91 percent of age-62-plus workers increase their PIAs – that is, their recent earnings are more than the 35th-highest year already on their record. The share of older workers who replaced a zero in their earnings record falls with age, as expected, but is quite high: about 30 percent of all workers increased their benefit at age 62 by replacing a zero-earning year.

Table 1 also indicates that while the vast majority of both men and women are able to increase their PIAs by working past age 62, only women have a substantial amount of zeroes to replace. Prior to age 63, only 15 percent of men still have a zero-earning year among their top-35 years, but nearly one-half of all women do, and slightly more women do if they have a high school degree or less. Women who have ever divorced their spouses are slightly less likely to replace a zero-earning year, perhaps because they have had more consistent work histories than women who have been married for most of their working years.[9]

Table 2 reports the percentage gains in monthly Social Security retirement benefits for people who work past age 62, and decomposes the gains into the portion that derives from the

[8] An alternative approach would use the average observed increase for workers who actually delay until age 70, but only 47 workers in our sample do so. Instead, we use the average increase in the PIA among individuals of each age; the sample decreases with age, but remains substantial into the late 60s. This assumption likely overstates the potential gain given that it is calculated from workers who opted to delay retirement; these workers likely have greater earnings than the individual who opted to retire earlier.

[9] The high share of workers who can increase their benefits with further work is consistent with SSA (2004), which reports that on average men have 6 years of zero earnings after age 22, and women have 13 years. Our calculations show that women are less likely to have zero-earning years to replace at age 62 in more recent cohorts: 56 percent of women born from 1931-1940 had a zero-earning year in their top 35 at age 62, compared to 39 percent of women born in 1941-1950.

PIA increasing and the portion that is due to the change in the actuarial adjustment. The numbers at the bottom of each panel report the share that is due to PIA increases (the second row divided by the third row). We report the calculations for the full sample and separately by gender and for the two subsamples of women defined by marital status or education.

On average, delaying claiming by any one year – not just from ages 62 to 63, but from any age to the next – increases benefits by 7 percent (first column) simply through the actuarial adjustment.[10] Working an extra year raises benefits by another 1.2 percent, because those years frequently replace low- or zero-earning years from earlier in workers' careers. The total increase in benefits from an extra year of work (on average across ages) is 8.2 percent; about one-seventh of this increase is due to increasing the career average earnings, with the remainder due to the actuarial adjustment.

The next two panels in Table 2 show that women stand to gain more from raising their PIAs: 1.6 percentage points, compared to 0.8 percentage points for men. This result is sensible given that women have more low-earning years to replace. The total gain in Social Security benefits for women is 8.6 percent, of which about one-fifths derives from the PIA increase; for men, benefits rise by 7.8 percent.

The bottom four panels of Table 2 present results separately for women by marital status and education. The actuarial adjustments here differ – not because the actuarial adjustment formulas differ, but because most birth cohorts have different actuarial adjustment rates, and the sub-samples by marital status and education have different shares of each birth cohort. As a result, the actuarial adjustment is slightly larger women who have ever been divorced than for women who were continually married, probably because the rise in the divorce rate means that more divorced women are in more recent cohorts, where the delayed retirement credit is more generous. Both ever-divorced and continually married women see substantial increases in their PIAs for one year of late-career earnings: an additional 1.6 percentage points and 1.8 percentage points, respectively. The total increase in benefits from delaying retirement by any one year is about 9 percent for both marital groups.

Educational attainment, like divorce, has also increased in the later cohorts. Therefore, better-educated women also see a slight advantage in the actuarial adjustment over less-educated

[10] The average increase from the actuarial adjustment, 7 percent, is only slightly larger than the increase from delaying claiming before the FRA (6.67 percent), because most of the extra years worked were at pre-FRA ages.

women. Late-career earnings increase benefits for both better- and less-educated women by 1.2 percent. But the total increase in benefits from delaying retirement by any one year is 8.1 percent for women with a high school degree or less, and 8.4 percent for women with at least some college experience.

Figure 1 displays these results in a graph. The total height of each bar is the overall gain in the Social Security benefit from working one more year at some time after age 62. The gray portion of the bar is the gain attributable to the actuarial adjustment through delayed claiming, and the red area is attributable to increasing the PIA through delayed retirement. It is clear that the majority of the gain in benefits for each group is from delayed claiming. Men do not substantially increase their career average earnings, and the extra amount attributable to late-career earnings is larger for each group of women.

Figure 2 examines the increase in retirement benefits at each age for women (panel A) and men (panel B) and decomposes this gain into the portions attributable to the actuarial adjustment (gray) and the PIA increase (red). The boost to Social Security benefits is largest between ages 63-65, at least in part because of the selection effect: lower earners likely drop out of the labor force closer to age 62, leaving mostly higher earners – who have fewer low-earnings years to replace – working closer to their FRA. After age 65, however, the retirement benefit boost starts to fade; earnings at even older ages are not replacing the lower-earning, early-career years, as evidenced by the shrinking boost coming from changes to the PIA (the red area).

Figure 3, and the second column of Table 2, present the overall gain from delaying claiming and retirement from age 62 all the way to one's 70th birthday; this gain is decomposed into the same two portions. The gain from delayed claiming is fixed at 76 percent, the actuarial adjustment for the youngest cohorts in our sample (1943-1950). On top of this increase, late-career earnings push up the PIA, which raises benefits by an additional 8.9 percent, for a total increase of 84.9 percent. Women see larger increases from raising their PIAs: 12.4 percent, compared to 5.7 percent for men. The extra boost from women's late-career earnings results in a larger overall increase of 88.4 percent, compared to 81.75 percent for men.

As expected, continually married women see a slightly larger PIA increase (13.9 percent) from delaying retirement to age 70 than divorced women (12 percent); each has an 88-90 percent increase in benefits overall. Less-educated women, also as expected, see a larger increase from

the PIA (12.6 percent) than better-educated women (11.9 percent); for both education groups, the overall gain is around 88 percent.

Conclusion

The advantage of delaying one's Social Security retirement benefit claim is well-known: postponing claiming from age 62 until 70 increases monthly benefits by 76 percent even if delayed claimers never work beyond age 62. But claiming and retirement tend to go hand-in-hand, so most older people who do not claim their benefits keep working. Older workers further increase their Social Security by replacing low-earning years from early in their careers, thereby raising their career average earnings based on their top 35 years of earnings.

The results in this study show that the gains in retirement benefits are substantial not just because of the 76 percent bonus for delayed claiming. The overall increase in Social Security benefits of working until 70 is 85 percent among recent cohorts of individuals working after age 62 (and 85 percent across all cohorts), because of the additional 9-percent boost from late-career earnings. Women, in particular, are able to increase their benefit by a total of 88 percent, because nearly one-half of women have at least one zero-earning year in their top 35 years of earnings. There are similarly large gains for women who are divorced and continually married, and better- and less-educated.

These findings emphasize the effectiveness of delaying one's retirement in shoring up the retirement security of vulnerable workers. Working longer allows older individuals to postpone drawing down their retirement saving; permits them to save longer or accumulate more pension benefits; makes them more likely to maintain their employer-sponsored health insurance; and may have positive effects on their mental and cognitive health (Munnell and Sass 2008). This study's results suggest that policies aimed at increasing employment at older ages – through reforms to Social Security and Medicare, or through tax credits that reduce the cost of employing older workers – also increase Social Security benefits. That increase is due not just to the delayed retirement credit but also because most workers earn more at the end of their careers.

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Table 1. *Share of Workers Who Increase Their PIAs by Working at Ages 62+*

	Full sample		Men		Women		Ever-divorced women		Women who did not attend college	
Age of worker	Increased	Replaced a zero	Increased	Replaced a zero	Increased	Replaced a zero	Increased	Replaced a zero	Increased	Replaced a zero
63	91.2%	29.9%	87.9%	15.3%	94.9%	46.3%	93.9%	39.4%	95.2%	50.8%
64	91.8	26.5	89.3	13.1	94.6	41.4	92.6	34.7	95.9	46.8
65	92.0	24.6	89.2	12.4	95.1	38.0	92.0	31.2	96.4	43.3
66	91.3	22.6	88.9	10.9	93.7	34.5	89.4	26.7	94.7	40.2
67	91.4	21.7	89.3	9.9	93.5	33.4	88.8	31.0	94.1	38.2
68	92.0	20.1	90.8	9.5	93.1	30.6	84.9	27.9	94.4	34.3
69	92.4	17.7	91.0	8.7	93.8	26.9	86.2	22.8	95.6	30.2
70	92.0	16.0	91.1	7.9	92.9	24.7	82.9	22.8	94.7	26.8

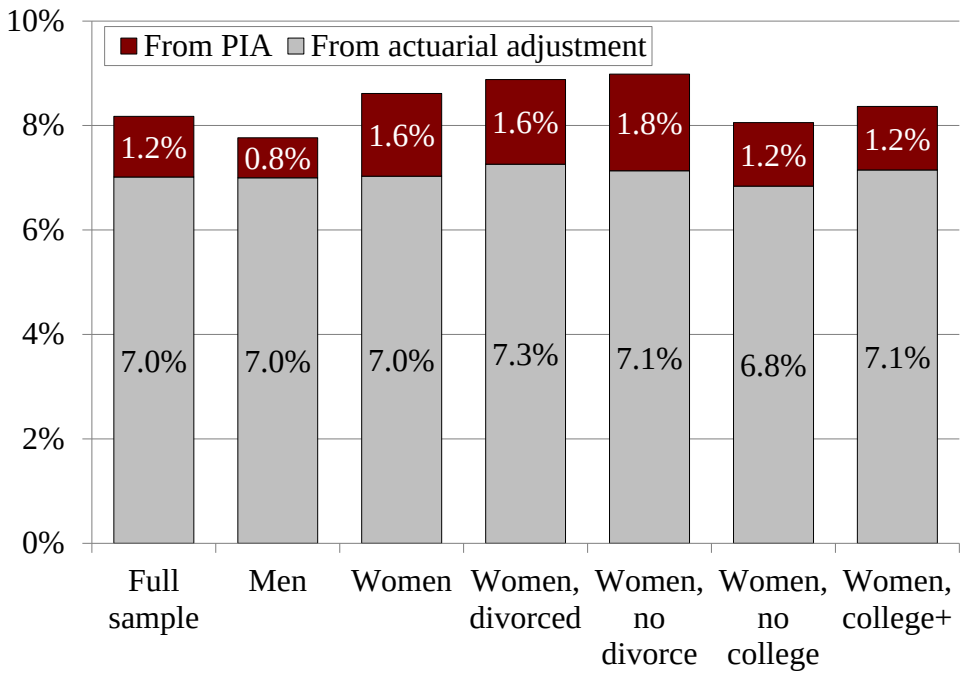
Source: Health and Retirement Study, 1992-2012 linked to SSA Respondent Cross-Year Summary Earnings File.

Table 2. *Actual Gain in Social Security Benefits from Working at Ages 62+*

	For any one year	Implied gain from 62-70
Full sample		
From actuarial adjustment	7.0%	76.0%
From PIA	1.2	8.9
Total increase	8.2	84.9
Share from PIA growth	14.2	10.5
Men		
From actuarial adjustment	7.0%	76.0%
From PIA	0.8	5.7
Total increase	7.8	81.7
Share from PIA growth	9.9	6.9
Women		
From actuarial adjustment	7.0%	76.0%
From PIA	1.6	12.4
Total increase	8.6	88.4
Share from PIA growth	18.4	14.0
Women, ever divorced		
From actuarial adjustment	7.3%	76.0%
From PIA	1.6	12.0
Total increase	8.9	88.0
Share from PIA growth	18.3	13.6
Women, continually married		
From actuarial adjustment	7.1%	76.0%
From PIA	1.8	13.9
Total increase	9.0	89.9
Share from PIA growth	20.6	15.5
Women, HS degree or less		
From actuarial adjustment	6.8%	76.0%
From PIA	1.2	12.6
Total increase	8.1	88.6
Share from PIA growth	15.1	14.2
Women, some college or more		
From actuarial adjustment	7.1%	76.0%
From PIA	1.2	11.9
Total increase	8.4	87.9
Share from PIA growth	14.5	13.5

Note: The actuarial adjustment is the one faced by the 1943-1950 birth cohorts.
Source: Health and Retirement Study, 1992-2012 linked to SSA Respondent Cross-Year Summary Earnings File.

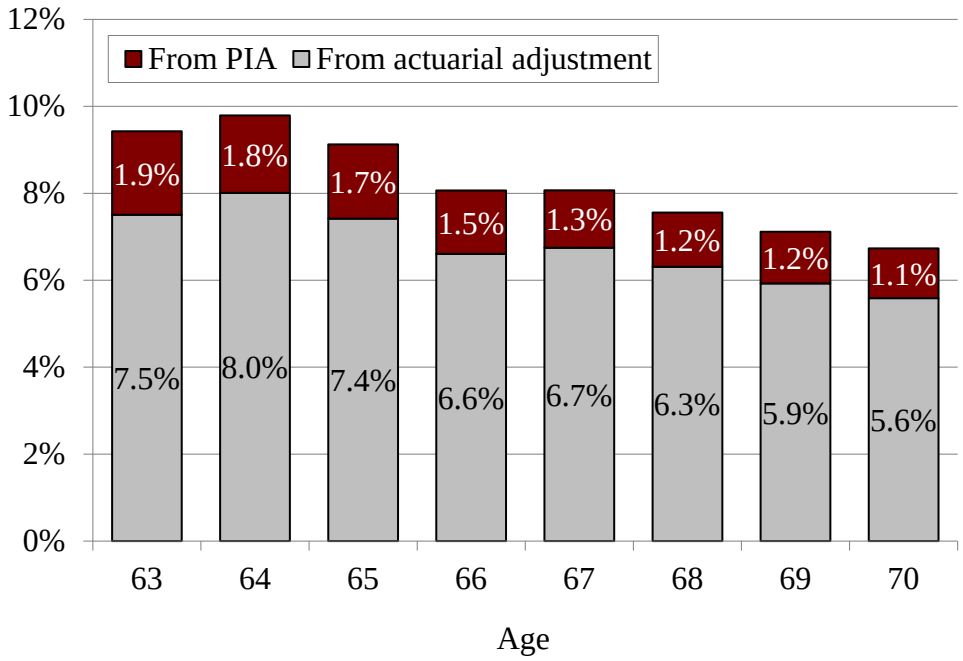
Figure 1. *Decomposition of the Increase in Social Security Retirement Benefits from Delaying Retirement by One Year*



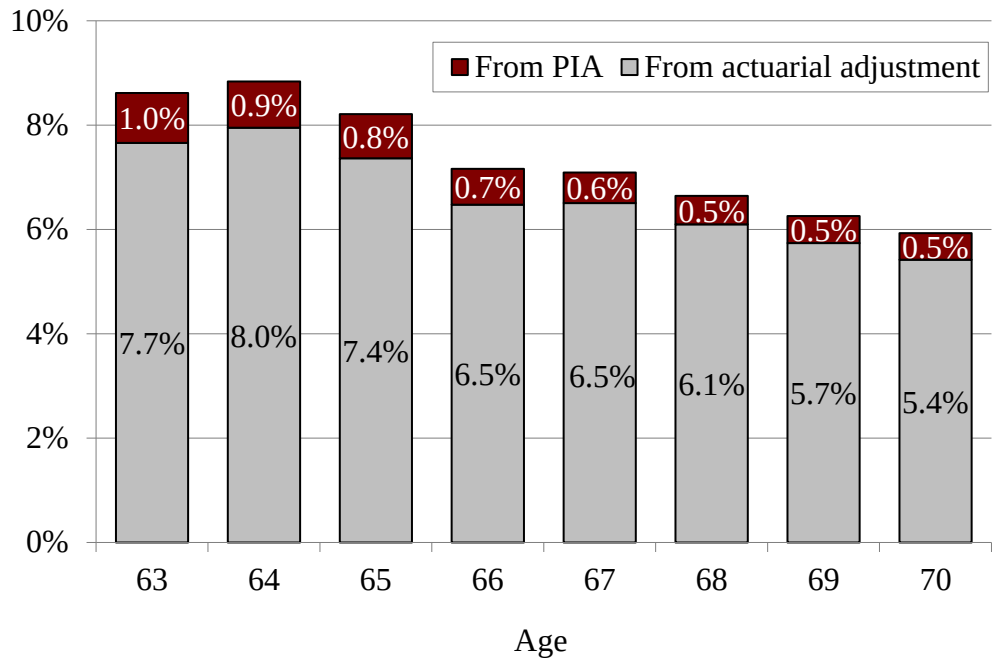
Source: Health and Retirement Study, 1992-2012 linked to SSA Respondent Cross-Year Summary Earnings File.

Figure 2. *Decomposition of the Increase in Social Security Retirement Benefits from Delaying Retirement by One Year, by Age*

a. Women

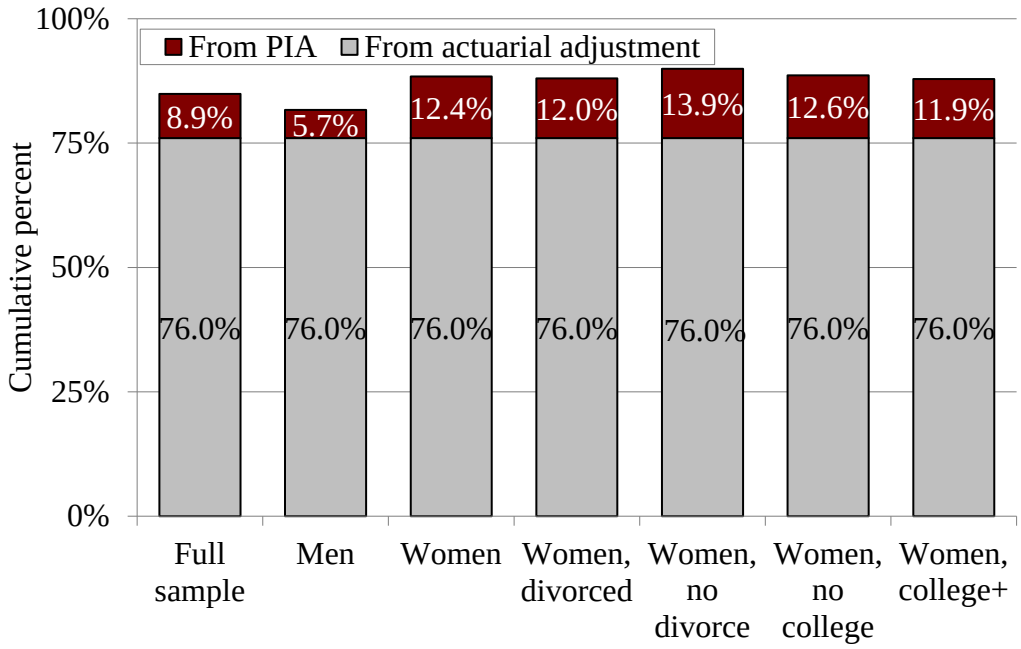


b. Men



Source: Health and Retirement Study, 1992-2012 linked to SSA Respondent Cross-Year Summary Earnings File.

Figure 3. *Decomposition of the Increase in Social Security Retirement Benefits from Delaying Retirement from Age 62 to 70*



Source: Health and Retirement Study, 1992-2012 linked to SSA Respondent Cross-Year Summary Earnings File.

Appendix Table A1. *Actuarial Adjustments to Social Security Retirements Benefits from Delayed Claiming, by Age and Cohort*

Birth cohort		Claiming age									Implied gain in benefits
		62	63	64	65	66	67	68	69	70	
1943+	Percent of PIA	75.0	80.0	86.7	93.3	100.0	108.0	116.0	124.0	132.0	76
	Actuarial Adjustment		5.0	6.7	6.7	6.7	8.0	8.0	8.0	8.0	
	Year-over-year increase		6.7	8.3	7.7	7.1	8.0	7.4	6.9	6.5	
	Cumulative increase		6.7	15.6	24.4	33.3	44.0	54.7	65.3	76.0	
1942	Percent of PIA	75.8	81.1	87.8	94.4	101.3	108.8	116.3	123.8	131.3	73.1
	Actuarial Adjustment		5.3	6.7	6.7	6.8	7.5	7.5	7.5	7.5	
	Year-over-year increase		7.0	8.2	7.6	7.2	7.4	6.9	6.5	6.1	
	Cumulative increase		7.0	15.8	24.5	33.5	43.4	53.3	63.2	73.1	
1941	Percent of PIA	76.7	82.2	88.9	95.6	102.5	110.0	117.5	125.0	132.5	72.8
	Actuarial Adjustment		5.6	6.7	6.7	6.9	7.5	7.5	7.5	7.5	
	Year-over-year increase		7.2	8.1	7.5	7.3	7.3	6.8	6.4	6.0	
	Cumulative increase		7.2	15.9	24.6	33.7	43.5	53.3	63.0	72.8	
1940	Percent of PIA	77.5	83.3	90.0	96.7	103.5	110.5	117.5	124.5	131.5	69.7
	Actuarial Adjustment		5.8	6.7	6.7	6.8	7.0	7.0	7.0	7.0	
	Year-over-year increase		7.5	8.0	7.4	7.1	6.8	6.3	6.0	5.6	
	Cumulative increase		7.5	16.1	24.7	33.5	42.6	51.6	60.6	69.7	
1939	Percent of PIA	78.3	84.4	91.1	97.8	104.7	111.7	118.7	125.7	132.7	69.4
	Actuarial Adjustment		6.1	6.7	6.7	6.9	7.0	7.0	7.0	7.0	
	Year-over-year increase		7.8	7.9	7.3	7.0	6.7	6.3	5.9	5.6	
	Cumulative increase		7.8	16.3	24.8	33.6	42.6	51.5	60.4	69.4	

-continued-

Appendix Table A1. *Actuarial Adjustments to Social Security Retirements Benefits from Delayed Claiming, by Age and Cohort*

Birth cohort		Claiming age									Implied gain in benefits
		62	63	64	65	66	67	68	69	70	
1938	Percent of PIA	79.2	85.6	92.2	98.9	105.4	111.9	118.4	124.9	131.4	66.0
	Actuarial Adjustment		6.4	6.7	6.7	6.5	6.5	6.5	6.5	6.5	
	Year-over-year increase		8.1	7.8	7.2	6.6	6.2	5.8	5.5	5.2	
	Cumulative increase		8.1	16.5	24.9	33.2	41.4	49.6	57.8	66.0	
1937	Percent of PIA	80.0	86.7	93.3	100.0	106.5	113.0	119.5	126.0	132.5	65.6
	Actuarial Adjustment		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	
	Year-over-year increase		8.3	7.7	7.1	6.5	6.1	5.8	5.4	5.2	
	Cumulative increase		8.3	16.7	25.0	33.1	41.3	49.4	57.5	65.6	
1935-36	Percent of PIA	80.0	86.7	93.3	100.0	106.0	112.0	118.0	124.0	130.0	62.5
	Actuarial Adjustment		6.7	6.7	6.7	6.0	6.0	6.0	6.0	6.0	
	Year-over-year increase		8.3	7.7	7.1	6.0	5.7	5.4	5.1	4.8	
	Cumulative increase		8.3	16.7	25.0	32.5	40.0	47.5	55.0	62.5	
1933-34	Percent of PIA	80.0	86.7	93.3	100.0	105.5	111.0	116.5	122.0	127.5	59.4
	Actuarial Adjustment		6.7	6.7	6.7	5.5	5.5	5.5	5.5	5.5	
	Year-over-year increase		8.3	7.7	7.1	5.5	5.2	5.0	4.7	4.5	
	Cumulative increase		8.3	16.7	25.0	31.9	38.8	45.6	52.5	59.4	
1931-32	Percent of PIA	80.0	86.7	93.3	100.0	105.0	110.0	115.0	120.0	125.0	56.3
	Actuarial Adjustment		6.7	6.7	6.7	5.0	5.0	5.0	5.0	5.0	
	Year-over-year increase		8.3	7.7	7.1	5.0	4.8	4.5	4.3	4.2	
	Cumulative increase		8.3	16.7	25.0	31.3	37.5	43.8	50.0	56.3	

Source: U.S. Social Security Administration.

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