Article

Research on Aging
2018, Vol. 40(1) 27–53

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DOI: 10.1177/0164027516676877
journals.sagepub.com/home/roa
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Does Eliminating the Earnings Test Increase the Incidence of Low Income Among Older Women?

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Abstract

Reducing or eliminating Social Security's retirement earnings test (RET) can encourage labor supply of older individuals receiving benefits. However, these reforms can encourage earlier claiming of Social Security benefits, permanently lowering future benefits. We explore the consequences, for older women, of eliminating the RET from the full retirement age to age 69 (in 2000), relying on the intercohort variation in exposure to changes in the RET to estimate these effects. The evidence is consistent with the conclusion that eliminating the RET increased the likelihood of having very low incomes among women in their mid-70s and older—ages at which the lower benefits from claiming earlier could outweigh higher income in the earlier period when women or their husbands increased their labor supply.

Keywords

earnings test, older women, poverty, low income

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The Social Security retirement earnings test (RET) establishes a threshold for which earnings above a threshold reduce benefits. Prior to 2000, the RET reduced benefits by US$1 per US$3 earned above the threshold, from the full retirement age (FRA, then 65) to age 69 (Social Security Administration, 2010). For 65- to 69-year-olds, the threshold in 1999 was US$15,500. Beneficiaries ages 62 to the FRA are subject to a more restrictive RET, reducing benefits by US$1 for every US$2, with a lower threshold. The Senior Citizens' Freedom to Work Act of 2000 repealed the RET above the FRA (and made the RET less stringent in the year an individual reached the FRA).

The RET is viewed as a tax (Liebman & Luttmer, 2011), although the lost benefits are provided in the future. Consequently, the predicted effect of removing the RET on labor supply (and hence earnings) depends on where the beneficiary was on the budget constraint before eliminating the RET (Haider & Loughran, 2008). Figure 1 provides the budget constraints with and without the RET. Beneficiaries choosing low hours prior to 2000 (segment DC) should be unaffected by eliminating the RET. Among those affected, beneficiaries whose labor supply eliminated all of their Social Security benefits (segment BE) experience an income effect, likely decreasing their hours worked. Those bunching just at or below the RET threshold (point D) should increase hours worked through the substitution effect. And for those receiving reduced benefits due to earning above the threshold (segment DE), there is an income and a substitution effect with an ambiguous net effect.

Thus, the average effect of eliminating the RET on beneficiaries' labor supply and earnings is unclear theoretically. Earlier research on primary beneficiaries or only men, based on evidence from changes in the RET (eliminating the RET, changing the threshold, or reducing the "tax rate" on earnings above the threshold), finds bunching of earnings just below where the RET applies, and net increases in labor supply and earnings from eliminating the threshold (Friedberg, 2000; Gruber & Orszag, 2003; Haider & Loughran, 2008; Song & Manchester, 2007). Research on the 2000 reforms finds that female primary beneficiaries affected by eliminating the RET increased their labor supply and earnings, although there was no change for spousal beneficiaries (Figinski, 2013).[1]

There are also likely effects on benefit claiming and hence benefit levels. Those subject to the RET have an incentive to delay claiming, and to claim earlier when the RET is eliminated, resulting in lower Social Security benefits. In particular, the 2000 policy changes should lead some people to move the age of claiming from above the FRA down to the FRA because the RET was eliminated for those attaining the FRA. Those who claim benefits early

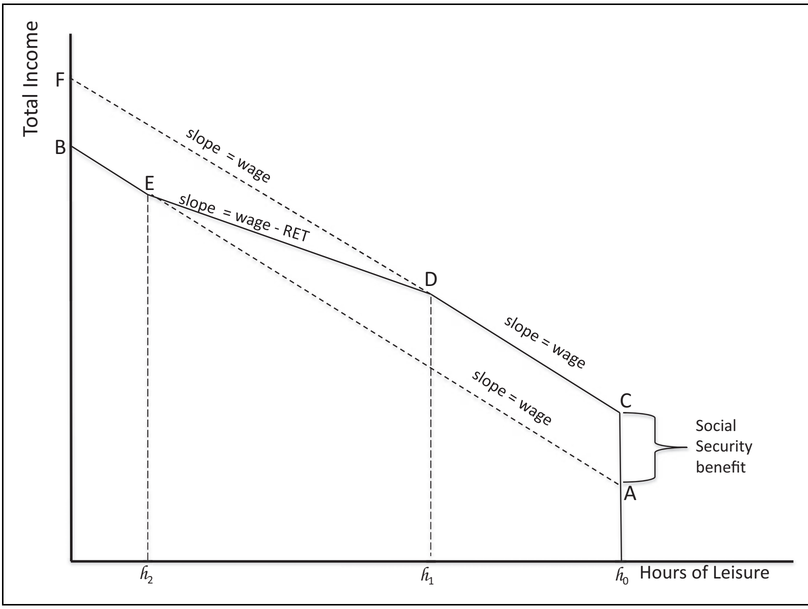

Figure 1. Budget constraint. Prior to the 2000 removal of the retirement earnings test (RET), all Social Security beneficiaries younger than age 70 faced a budget constraint of CDEB. If beneficiaries younger than age 70 chose to work past the threshold (point D), these beneficiaries received a reduction in benefits (RET). After the 2000 elimination of the RET, beneficiaries who had attained the full retirement age (FRA) faced a budget constraint of CDF (ignoring other taxes and benefits). Beneficiaries age 62 to the FRA continue to face a budget constraint like CDEB even after the 2000 changes.

and continue to work can supplement their wage income with Social Security benefits, but they may not save for when they no longer work and thus, especially when they stop working, may have lower incomes—including Social Security payments—than if they had not claimed benefits earlier in response to elimination of the RET. This problem may be particularly severe for older women. Thus, removing the RET could have the unintended effect of increasing poverty—or the incidence of low income more generally—among much older individuals, as first pointed out by Gruber and Orszag (2003). There is a potential offsetting response, if eliminating the RET implies that people work longer and run down their assets more slowly, with positive implications for resources available at older ages.

We explore the longer term response to changes in the RET. Old-age poverty is common among women, beginning around age 75 (Sandell &

Iams, 1997), especially those who live alone (Gornick, Munzi, Sierminska, & Smeeding, 2009; Smeeding & Sandstrom, 2005). In the United States, this may stem in part from how Social Security benefits change with early claiming, such that women, who generally outlive men, face actuarially unfair benefit reductions from early claiming (by them or their husbands)—which is exacerbated by the structure of spousal and survivor benefits (Sass, Sun, & Web, 2007).[2] We focus on women because they generally outlive men and hence are more likely to rely mainly on Social Security benefits, especially at older ages when the lower benefits from claiming earlier are more likely to outweigh the higher earnings or saving from increased labor supply in response to eliminating the RET.

Past Research

Figinski (2013) finds earnings increases for male and female primary beneficiaries by 19–20%, resulting from eliminating the RET at the FRA in 2000. If people claim benefits one year earlier, the benefit reduction is generally 6.7%.[3] It seems unlikely that extra earnings of 19–20% for perhaps a year or two would be nearly enough to offset the permanent benefit reduction.

Song and Manchester (2007) find that the effect of this policy change on earnings is concentrated among high earners (for male and for female primary beneficiaries), suggesting little effect on those more likely to be poor at old ages. But eliminating the RET could still encourage earlier benefit claiming among those with lower earnings prior to the change that exceed the threshold, and hence were not claiming benefits, but who have little ability to manipulate their earnings in response to changes in the RET. In contrast, for low earners unlikely to have earnings after age 65, we would not expect much claiming response.

Empirical Approach

The goal of the empirical analysis is to estimate the effects of the elimination of the RET in 2000 on the age at claiming Social Security benefits, benefit amounts, and income relative to low-income thresholds. The empirical strategy compares these outcomes across older cohorts not affected by the reform that eliminated the RET, and younger cohorts that were affected, in the latter case considering also variation in the age at which they were affected. The key challenge is the usual one of the counterfactual. We want to compare observed outcomes for cohorts affected by the elimination of the RET to what their outcomes would have been had the RET not changed, but the policy change applies to everyone in the affected cohort. Thus, identification is less compelling than with policy that varies over time and across jurisdictions or groups, providing treated and untreated observations in the same cohorts to control for other cohort-specific changes.[4]

We estimate reduced-form models that identify the effect of eliminating the RET from intercohort changes. Consider first a world without couples, in which women in different cohorts face different RET rules, choose when to claim benefits, and for whom we subsequently observe Social Security benefits and other sources of income. The model is:

$$Y_i^w = \alpha + \beta EET_i^w + X_i^w\gamma + \varepsilon_i. \tag{1}$$

Y^w represents the different outcomes we study, EET^w is a dummy variable for cohorts of women for which the RET from the FRA through age 69 was eliminated, and X^w is a vector of control variables (listed in Table 2). We also break EET^w into five dummy variables for those aged 69 in 2000, 68, 67, 66, and 65 or younger, to capture differences across cohorts affected differentially by "exposure" to eliminating the RET.[5] The model is always estimated for subsamples of women no younger than age 70, who should all have claimed their Social Security benefits.

This regression identifies the effects of the elimination of the RET from differences in outcomes between cohorts that were and were not affected by the elimination of the RET. This requires the identifying assumption that there are no other sources of differences in these outcomes across cohorts. As one approach to assessing this assumption, we compare results for a wider and narrower range of birth cohorts (1918–1942 and 1925–1940); with the narrower range, it is less likely that other sources of cross-cohort differences are important. The specification breaking EET^w into five dummy variables capturing variation in exposure to the elimination of the RET is also useful in this regard; if the effect is causal, then there is an expected "dose–response" function reflecting the fact that the effect should be stronger the younger an individual was at the time of the elimination of the RET because there was more time to adjust behavior. To this end, we also show graphs of the time pattern of changes across cohorts.

Our estimates for age at claiming provide evidence on the basic response and touch base with earlier literature. We are more interested, however, in effects on the incidence of low income, so we estimate similar specifications for Social Security benefits and then for whether income is below thresholds that are multiples of the official poverty line.

The indexation of Social Security benefits complicates the construction of the counterfactual benefits needed to study benefits or all income. Consider the example of using data only on the 1931 and 1930 birth cohorts; in 2000, the first (then aged 69) is affected by the elimination of the RET, and the second is not. Eliminating the RET should lead some members of the 1931 birth cohort to claim benefits earlier, resulting in lower benefits. The 1930 birth cohort provides a counterfactual for what benefits would have been (and when they would have been claimed).

But Social Security's two-step indexation process implies that benefits for the 1930 cohort may not correctly estimate the counterfactual for the 1931 cohort. For each individual, the average wage index (AWI) at age 60 is used to bring earnings prior to age 60 up to current nominal levels in setting the primary insurance amount (PIA) based on average indexed monthly earnings (AIMEs). In our example, the PIA of the 1930 birth cohort has to be inflated by the AWI for 1991 relative to 1990 to get the counterfactual PIA for the 1931 birth cohort, or the benefits of the 1931 birth cohort would be too high—masking the reduction in benefits from claiming earlier because of the elimination of the RET. The PIA is subsequently indexed by the CPI-W, which we have to use from age 60 to the year of observation to have comparable current dollar benefits for the two cohorts (see http://www.ssa.gov/oact/cola/AWI.html, http://www.ssa.gov/oact/cola/Benefits.html, and http://www.ssa.gov/oact/cola/latestCOLA.html, retrieved March 29, 2015) (The Consumer Price Index [CPI] is a commonly used measure of inflation. The Bureau of Labor Statistics calculates separate indices for different purposes. The CPI for All Urban Consumers [CPI-U] is typically used for calculating inflation. The CPI for Urban Wage Earners and Clerical Workers [CPI-W] is the measure of inflation the Social Security Administration uses). Thus, we adjust Social Security benefits by multiplying by the ratio of the 1995 AWI to the AWI when the person was age 60.[6] Then, because benefits are observed in different years, we adjust by the CPI-W to 2013 dollars.

Benefits can still vary based on when people claimed benefits and their earnings. But to see that this indexation isolates the variation in benefits due to age at claiming, consider a simple example with workers in two successive cohorts, with identical nominal earnings streams in the three years they work ($Y1$, $Y2$, and $Y3$) except for the difference reflected in the AWI ($W(t)$). To clarify, the older worker works in "calendar" years 1, 2, and 3, and the younger one works in years 2, 3, and 4, but we label their earnings in each of these three years similarly as $Y1$, $Y2$, and $Y3$. $Y3$ earnings should be thought of as occurring, for each worker, in the last year for which the AWI adjustment is made – age 60 under Social Security rules. Adjusting the AIME of the younger worker for indexation by the AWI requires only the ratio of the AWI in the last year each one works ($W(3)/W(4)$). Given the earnings streams, using the AWI to construct the AIME for each worker yields:

$$\begin{aligned}&\text{AIME worker 1, retiring in Year 3, in Year 3}\\&= Y3 \ + Y2 \cdot (W(3)/W(2)) \ + Y1 \cdot (W(3)/W(1)).\end{aligned} \tag{2}$$

$$\begin{aligned}&\text{AIME worker 2, retiring in Year 4, in Year 4}\\&= Y3 \cdot (W(4)/W(3)) \ + Y2 \cdot (W(3)/W(2)) \cdot (W(4)/W(3))\\&\quad + Y1 \cdot (W(2)/W(1)) \cdot (W(4)/W(2))\\&= Y3 \cdot (W(4)/W(3)) \ + Y2 \cdot (W(4)/W(2)) \ + Y1 \cdot (W(4)/W(1)).\end{aligned} \tag{3}$$

Equating the earnings streams requires multiplying by the last expression in Equation 3 by $W(3)/W(4)$, which generalizes, in our case, to multiplying by the ratio of the AWI in 1995 to the AWI when the person was age 60.

To study how eliminating the RET may affect the incidence of low income, we construct income across Social Security benefits and other sources of income measured in the Health and Retirement Study (HRS) data.[7] For non-Social Security income, we simply index by the CPI-U. But the indexing of Social Security benefits has implications for measuring the incidence of low income relative to the poverty line. The AWI generally rises faster than the CPI, reflecting growth in real wages. Given that the poverty threshold in the United States is an absolute measure, the indexation of Social Security benefits by the AWI implies long-term reductions in poverty, as successive generations get benefits that reflect the real wage growth their birth cohort experienced. This implies that when we index Social Security benefits as described above, the implied poverty rate for samples of older women will be lower than actually observed. Thus, we adjust the poverty threshold for each sample, so that the poverty rate based on indexed benefits and other income is identical to the observed poverty rate absent the counterfactual adjustment. This adjustment implies that, ceteris paribus, the counterfactual poverty rate for an older cohort were it instead born later is always lower—which is the purpose of using the AWI in setting Social Security benefits.

We also estimate models intended to capture the effects of eliminating the RET for women and their husbands. In this case, Equation 1 becomes:

$$Y_i^w = \alpha + \beta EET_i^w + \beta' EET_i^h + X_i^w \gamma + \varepsilon_i, \tag{4}$$

where EET^h is the dummy variable indicating that the husband was younger than age 70 in 2000.[8] Husband's age at claiming can matter, of course, because of either spousal or survivor benefits, although these benefits are also reduced for women claiming before their FRA.

Data

We use the RAND version of the HRS. We limit the data to individuals who claim benefits between ages 62 and 71, reporting annual Social Security benefits between US$6,000 and US$35,500 (in 2013 dollars), which should capture nearly all beneficiaries.[9] Most of our analyses limit the data to women in two age ranges—ages 70 and 71 and ages 75 and 76. We add the latter sample (and present limited results for other ages) to examine how eliminating the RET may have affected older women at different ages—for example, when more rather than fewer of them were widowed. We use a 2-year window for the age range because the HRS is conducted every two years, and we measure age in the calendar year prior to the interview year, corresponding to the coverage of the income questions.

We also create subsamples of women who can be matched to a unique husband; multiple husbands complicate matters because it is unclear which husband's age—and hence exposure to the elimination of the RET—affects the woman's Social Security benefits. We use these subsamples to study the effects of the husband's claiming decision on the family's and wife's outcomes. We also limit this sample to women whose husbands claim benefits between ages 62 and 71.

Beginning in the 2002 wave (but not before), the RAND HRS provides a measure of income that corresponds to the official poverty measure. Prior to that, we construct this measure from the separate components reported in the HRS. Similarly, we have to construct the poverty line prior to 2002, using age of related children from the RAND HRS family data.[10] For all years, we substitute our adjusted Social Security benefits measure.

Table 1 reports descriptive statistics. The average reported age at claiming benefits is between 63 and 64, the widowhood rate is much higher for the all women sample than for the women with husbands sample, regardless of age, and in the latter sample, the probability of being widowed increases sharply for the older women (from 0.17 to 0.27). The incidence of poverty or low income is much lower in the samples of women with unique husbands observed, although the percentage of women with low incomes increases sharply between the ages of 70 and 75. The women with unique husbands

Table 1. Descriptive Statistics for Different Samples.

	All women		Women with husbands observed	
	Ages 70–71 Sample	Ages 75–76 Sample	Ages 70–71 Sample	Ages 75–76 Sample
Variable	(1)	(2)	(3)	(4)
Individual annual Social Security benefits, adjusted	15,547	19,142	14,480	17,885
Family annual Social Security benefits, adjusted	—	—	33,259	37,419
Share below poverty line				
Unadjusted	0.0588	0.0728	0.0172	0.0276
Social Security benefits adjusted	0.0588	0.0728	0.0172	0.0276
Share below 150% of poverty line				
Unadjusted	0.1500	0.2060	0.0646	0.1120
Social Security Benefits Adjusted	0.1500	0.2060	0.0646	0.1120
Share below 200% of poverty line				
Unadjusted	0.2620	0.3460	0.1620	0.2460
Social Security benefits adjusted	0.2620	0.3460	0.1620	0.2460
Family income excluding Social Security benefits	—	—	48,772	40,125
Social Security benefits (adjusted) as share of family income	—	—	0.595	0.686
Age	70.94	75.89	70.95	75.88
Age at claiming	63.54	63.67	63.39	63.45
Median year of birth	1934	1931	1934	1931
<High school	0.196	0.207	0.154	0.163
High school grad or GED	0.428	0.423	0.464	0.451
Some college	0.225	0.228	0.228	0.234
College degree (BA) or higher	0.151	0.142	0.155	0.152
White	0.845	0.854	0.906	0.908
Black	0.123	0.115	0.066	0.068
Other	0.033	0.031	0.028	0.025
Current marital status: married	0.556	0.468	0.818	0.721
Current marital status: partnered	0.016	0.012	0.004	0.006
Current marital status: widowed	0.255	0.382	0.166	0.265

(continued)

Table 1. (continued)

	All women		Women with husbands observed	
	Ages 70–71 Sample	Ages 75–76 Sample	Ages 70–71 Sample	Ages 75–76 Sample
Variable	(1)	(2)	(3)	(4)
Current marital status: divorced	0.143	0.110	0.012	0.008
Number of observations	2,974	1,958	1,639	1,063

Note. The sample is limited to individuals who are currently claiming Social Security benefits, who report Social Security benefits of greater than US$6,000 but less than US$35,500 in 2013 dollars, and who report an age at claiming of between ages of 62 and 71. We do not use the Health and Retirement Study (HRS) sampling weights, given that the correct weights would change based on the many sample restrictions we impose. However, we verified that our results are insensitive to using these weights. For the "women with husbands" sample, we further limit the sample by removing women who never report a spouse or report multiple spouses during the HRS sample and requiring that husband's Social Security claiming age is not missing and is between ages 62 and 71. Reported Social Security benefits are multiplied the ratio of the average wage index (AWI) in 1995 to the AWI when the person was aged 60, and by the ratio of the CPI-W in 2013 to the CPI-W in 1995. Other sources of income are adjusted to 2013 dollars using the CPI-U. We use an adjusted poverty measure that preserves the observed poverty rate, by adjusting the poverty threshold for each sample so that the poverty rate based on indexed benefits and other income is identical to the observed poverty rate absent the counterfactual adjustment (i.e., for observed poverty rate p in a sample, we define the pth percentile of the indexed income distribution as the adjusted poverty threshold, which is why we show both the unadjusted and adjusted figures, even though they are the same). The sample sizes are slightly larger than those reported below for the income threshold regressions because observations that reside in a nursing home are assigned a missing value for the income threshold/poverty variable. GED = General Education Development diploma.

have higher incomes because they were married at some point in the period covered by the HRS, and if they were divorced they did not have multiple husbands in this period.

Owing to the very low share of women with unique husbands and below the poverty line, we focus on whether women are below 150% or 200% of the poverty line—still low-income thresholds. Indeed, those with higher earnings initially are more likely to increase labor supply in response to the elimination of the RET, which could make us less likely to see older women affected by the elimination of the RET having income below these thresholds; the fact that we, nonetheless, find such evidence for these thresholds strengthens our conclusions.

We considered using the confidential administrative Social Security records that are available for many HRS respondents to get an administrative measure of the age at claiming and identify the kind of benefits women are claiming and thus perhaps better pin down whose exposure to the elimination of the RET drives benefits (which we cannot identify in the public use HRS data).[11] However, we encountered two problems in the administrative data. First, there are substantial discrepancies between self-reported age at claiming and the age at claiming calculated using administrative data (see Table A2 in the Online Appendix). The errors are larger for those born before 1931, for whom claiming dates are generally based on recall before the first survey. But there are many large errors for the younger cohorts as well. Second, we could assume that the administrative data are correct. But we could not replicate the Song and Manchester (2007) results using the HRS administrative data, yet we could replicate them using the HRS public data and self-reported age at claiming.[12] Thus, we proceed using the public HRS data.

Results

Individual Benefits

We first examine evidence on the age at claiming Social Security benefits. Figure 2, Panel A, reports average age at claiming by birth year for women born between 1925 and 1940 (our narrower range of cohorts). The vertical lines mark the oldest and youngest cohorts affected by the elimination of the RET. If age at claiming were driven only by changes in the RET, we would expect it to begin declining for the 1930 birth cohort, to decline relatively more for subsequent birth cohorts, and to stabilize after the 1935 birth cohort. The data roughly fit this story, although not exhibiting a clear increased response for each affected birth cohort from 1930 to 1935.

Table 2 reports ordinary least squares estimates, for women in isolation, of regressions for age at claiming benefits (for the 1925–1940 cohorts, and a broader range). We first include a single dummy variable for exposure to the elimination of the RET (less than age 70 in 2000) and then dummy variables capturing the age at which the elimination of the RET occurred. For both cohort ranges, columns 1 and 3 suggest that the elimination of the RET reduced the age at claiming by 8–9 months (statistically significant at the 1% level). Columns 2 and 4 indicate that, as in Figure 2, the expected dose–response relationship is partially evident, suggesting that we are not picking up spurious cohort effects, although a clearer monotonic relationship would

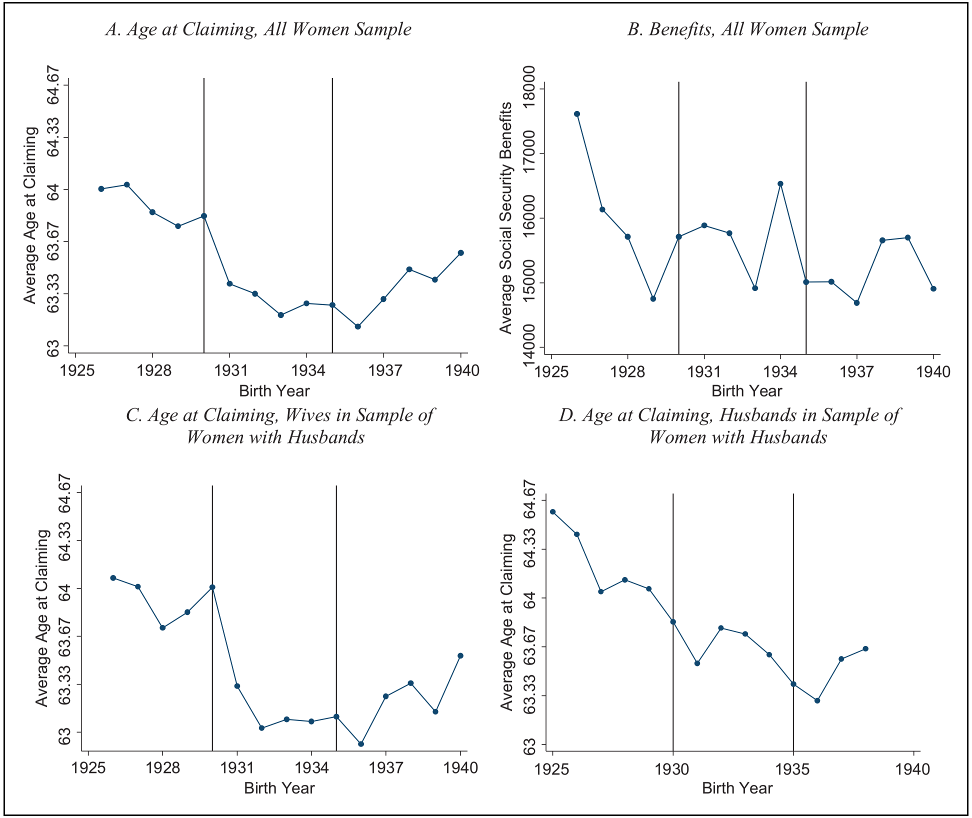

Figure 2. Average age at claiming and average Social Security benefits (average wage index [AWI]/CPI-U adjusted) by birth year, at age 70, born between 1925 and 1940. Cells with fewer than 50 observations are suppressed. The first vertical line indicates those born in 1930, who were age 70 in 2000 and unaffected by the elimination of the retirement earnings test (RET). The second vertical line indicates those born in 1935, who were age 65 in 2000 and were exposed to 5 years of the elimination of the RET.

Table 2. The Effect of the 2000 Elimination of the Retirement Earnings Test on the Age at Claiming Benefits in Months, Women First Observed Aged 70–71, Ordinary Least Squares Estimates.

	Born 1918–1942	Born 1918–1942	Born 1925–1940	Born 1925–1940
Dependent Variable	Age at Claiming in Months	Age at Claiming In Months	Age at Claiming in Months	Age at Claiming in Months
	(1)	(2)	(3)	(4)
Less than age 70 in 2000	–9.03*** (0.87)		–7.72*** (0.87)	
Aged 69 in 2000		–7.83*** (1.56)		–6.54*** (1.53)
Aged 68 in 2000		–7.96*** (1.57)		–6.67*** (1.55)
Aged 67 in 2000		–10.03*** (1.61)		–8.73*** (1.59)
Aged 66 in 2000		–8.83*** (1.59)		–7.53*** (1.57)
Aged 65 or younger in 2000		–9.55*** (1.07)		–8.23*** (1.06)
Number of observations	2,974	2,974	2,742	2,742

Note. See notes to Table 1. Asterisks denote levels of significance: 1% (***) level of significance; 5% (**) level of significance; and 10% (*) level of significance. These are based on ordinary least squares standard errors. The outcome variable is the age in months that the individual began claiming Social Security benefits. The sample includes the first observation of the individual at ages 70 or 71. Only female observations are included in the sample. The specification also includes dummy variables for education (high school or GED, some college, college degree [BA], and above), race (Black, White), marital status (married, partnered, widowed), and full retirement age greater than age 65.

be more reassuring. The estimates range from 6.5 to 7.8 months for those aged 69 when the RET was eliminated, to about 8.2 to 9.6 months for those aged 65 or less. The estimated coefficients do seem large, if, especially for the older affected cohorts, only those who had not claimed benefits by age 65 were affected by the elimination of the RET; however, some claiming prior to age 65 could be affected, owing to forward-looking or joint labor supply and claiming decisions.

Table 3. The Effect of the 2000 Elimination of the Retirement Earnings Test on Women's Benefits, Women First Observed Aged 70–71, Ordinary Least Squares Estimates.

	Born 1918–1942	Born 1918–1942	Born 1925–-1940	Born 1925–1940
Dependent Variable	Annual Benefits	Annual Benefits	Annual Benefits	Annual Benefits
	(1)	(2)	(3)	(4)
Less than age 70 in 2000	–807.68*** (246.89)		–642.46*** (246.87)	
Aged 69 in 2000		–803.03* (439.92)		–645.20 (435.72)
Aged 68 in 2000		–546.91 (444.36)		–388.36 (440.12)
Aged 67 in 2000		–698.78 (455.28)		–532.52 (450.93)
Aged 66 in 2000		6.94 (449.12)		162.88 (444.79)
Aged 65 or younger in 2000		–1,192.34*** (301.51)		–1,019.94*** (300.15)
Number of observations	2,974	2,974	2,742	2,742

Note. See notes to Tables 1 and 2.

Figure 2, Panel B, depicts the raw data for benefits. These data are noisier,[13] but still suggest that benefits declined as the RET was eliminated, and more so for the cohorts affected at younger ages. The regression estimates in Table 3 reflect the Table 2 estimates for age at claiming. Columns 1 and 3 indicate that (annual) benefits are lower by US$650–US$800 for cohorts for whom the RET was eliminated. In columns 2 and 4, the expected dose–response is partially but not fully evident; the notable exception is for those aged 66 in 2000, corresponding to the spike for the 1934 birth cohort in Figure 2. However, the estimates for the youngest affected cohorts (65 or younger in 2000) are the largest. The inconsistent dose–response relationships for some cohorts may reflect imprecise estimates for small cell sizes for single-year birth cohorts.

Family Benefits

We next turn to the relationship between eliminating the RET and family benefits, using the sample of women with a unique husband during the period covered by our data. Figure 2, Panel C, reports the average age at claiming by birth year for women in this sample. More so than in Panel A, there is a sharp decline in age at claiming beginning with the 1931 birth cohort, which increases over the first couple of affected cohorts after which age at claiming remains low. Panel D shows the data for husbands. There is a clear downward trend, and no obvious break with the elimination of the RET, which highlights the identification problem from inferring an effect from cross-cohort changes, because of pretreatment changes or trends. Our analysis focuses on women and emphasizes the broader sample of women not restricted to those matched to a unique husband, so the problematic data in Panel D of Figure 2 do not underlie many of our results. Nonetheless, the data suggest some caution in interpreting our results on the incidence of low income, since income is defined at the family level.

Columns 1–4 of Table 4 report regression estimates for age at claiming; the models include variables capturing both wives' and husbands' exposure to the elimination of the RET. We report results only for the narrower birth cohort range of 1925–1940 because, as earlier, results were similar for the 1918–1942 range. Columns 1 and 3 show, not surprisingly, that wives claimed benefits earlier if they were younger than age 70 in 2000 and similarly for husbands based on their age in 2000 (in both cases statistically significant at the 1% level). There is no evidence suggesting "cross" effects between spouses. Columns 2 and 4 show evidence of the expected dose–response, with the estimate rising, the younger the age at which one was

Table 4. The Effect of the 2000 Elimination of the Retirement Earnings Test (RET) on the Age at Claiming Benefits in Months, and Family Benefits, Women With Husband Observed, Women First Observed Aged 70–71, Born 1925–1940, Ordinary Least Squares Estimates.

Dependent Variable	Age at Claiming in Months	Age at Claiming in Months	Husband's Age at Claiming in Months	Husband's Age at Claiming in Months	Annual Family Benefits
	(1)	(2)	(3)	(4)	(5)
Less than age 70 in 2000	−10.31*** (1.35)		−0.11 (1.62)		2,740.26*** (656.54)
Aged 69 in 2000		−7.57*** (2.08)		−2.56 (2.50)	
Aged 68 in 2000		−10.49*** (2.04)		−1.53 (2.45)	
Aged 67 in 2000		−10.33*** (2.13)		5.06** (2.55)	
Aged 66 in 2000		−10.87*** (2.20)		2.97 (2.63)	
Aged 65 or younger in 2000		−11.93*** (1.69)		−1.51 (2.02)	
Husband less than age 70 in 2000	1.79 (1.22)		−7.92*** (1.46)		−4,243.99*** (593.42)
Husband aged 69 in 2000		1.58 (1.98)		−7.73*** (2.38)	
Husband aged 68 in 2000		−0.75 (2.13)		−5.35** (2.55)	
Husband aged 67 in 2000		4.33* (2.28)		−6.03** (2.73)	
Husband aged 66 in 2000		3.77* (2.26)		−8.26*** (2.70)	
Husband aged 65 or younger in 2000		3.49* (1.80)		−9.70*** (2.16)	
Combined effect of husband and wife less than age 70 in 2000					−1,503.73** (655.68)

Note. $N = 1{,}530$. See notes to Tables 1 and 2. The sample is further limited to women whose husband's age at claiming age is not missing and is between the ages of 62 and 71, and who report a unique husband. Those observations that report multiple husbands complicate matters because it is unclear which husband's age affects the woman's benefit. Women who are never observed as married are also excluded from the sample. A separate control is included for husband's full retirement age greater than age 65. We verified that the results for this subsample, but looking only at women's age at claiming and benefits, as in Tables 2 and 3, qualitatively replicated the results for the larger sample of women covered in those tables. The estimated effects on benefits were a bit smaller and less often statistically significant, but the results sometimes better matched the expected dose–response relationships with years of exposure to the elimination of the RET.

exposed. The estimate is nearly monotonic for wives; it is less clean for husbands, but the two largest estimates are for the cohorts affected at the youngest ages, with the estimate largest for those aged 65 and younger in 2000.

Column 5 reports evidence on family Social Security benefits, indicating that when husbands were exposed to the elimination of the RET, family benefits are lower. Conditional on the exposure of husbands, the estimates are the opposite sign for women's exposure. This is puzzling, and could reflect other influences on benefit levels associated with whether the wife was less than age 70 in 2000, conditional on whether the husband also was less than age 70. However, given small age differences between most husbands and wives, the partial effect of eliminating the RET only for wives is of limited interest and may be more a reflection of the age gap between husbands and wives than of the policy change, and the combined effect is of greater policy interest. As shown in the last row of the table, the estimates suggest that the combined effect of eliminating the RET for both husbands and wives is to significantly lower annual benefits by US$1,500.[14]

Low Income Relative to Poverty Thresholds

Finally, we turn to estimates for the incidence of income below 150% and 200% of the poverty line. Figure 3, Panel A, shows the share below each threshold (as well as the poverty line) by birth cohort for the sample of all women observed at ages 70–71. The shares below these thresholds tend to be a bit lower for cohorts more affected by the elimination of the RET, although the evidence is not clear. Panel B looks at women observed at ages 75 to 76—when they are likely to depend more exclusively on Social Security benefits, and hence for whom adverse effects on income of eliminating the RET are more likely. (See the higher shares of Social Security benefits in total household income for the older samples in Table 1.) Panel B exhibits more evidence of an uptick in the incidence of low income—more so for the 150% and 200% thresholds than 100%. Moreover, the evidence suggests the expected dose–response relationship, with the incidence of low-income rising for cohorts affected by the elimination of the RET at a younger age.

Table 5 reports the regression results. Columns 1–4 report results for the sample of all women, and columns 5 and 6 for women with husbands observed. The top panel reports results for the younger samples and the bottom panel for the older samples. For the sample of all women aged 70–71, the simpler specifications in columns 1 and 3 suggest that exposure to the elimination of the RET is associated with a lower probability of income

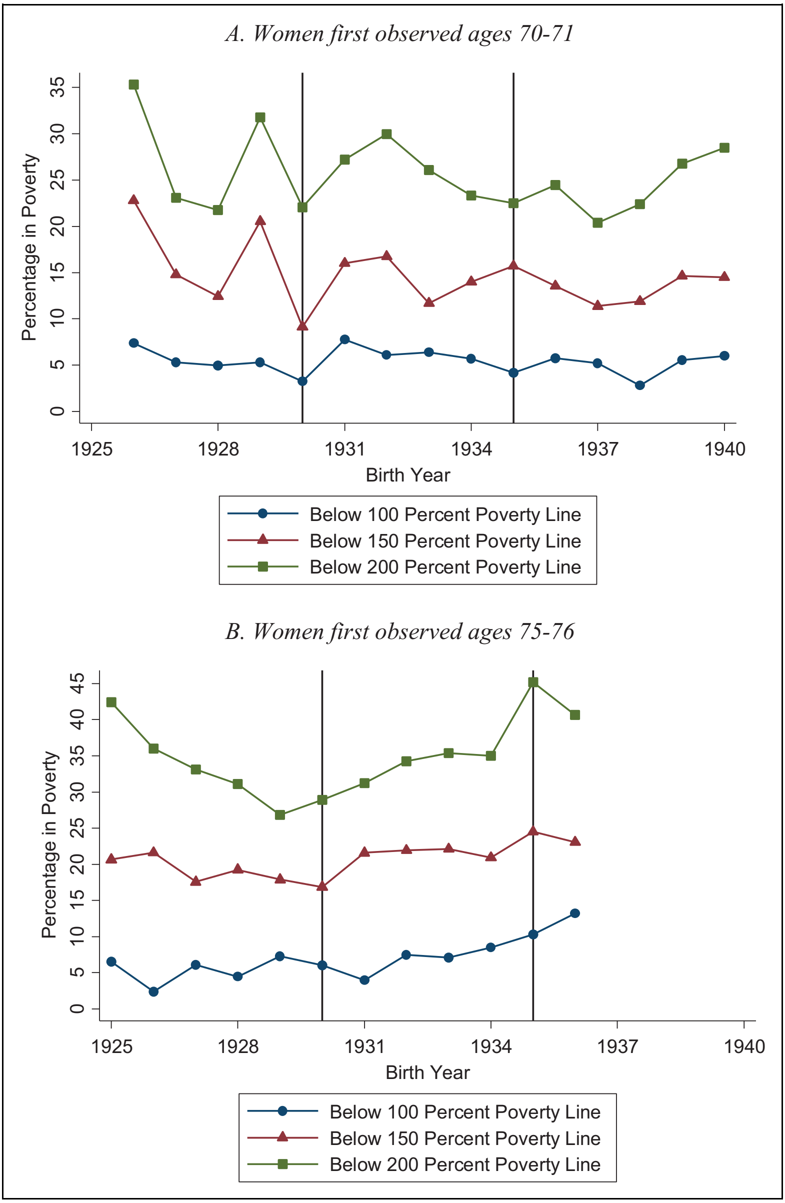

Figure 3. (Adjusted) poverty/low-income rates by birth year, all women sample, at ages 70–71 and 75–76, born between 1925 and 1940. See notes to Figure 2. The estimates for ages 70–71 and 75–76 correspond to those reported in columns 1, 3, 5, and 6 of Table 5.

Table 5. The Effect of the 2000 Elimination of the Retirement Earnings Test on Poverty, Women First Observed and Women With Husband Observed, Aged 70–71 and Aged 75–76 Samples, Born 1925–1940, Ordinary Least Squares Estimates.

Dependent Variable	Income < 150% of Poverty Line	Income < 150% of Poverty Line	Income < 200% of Poverty Line	Income < 200% of Poverty Line	Income < 150% of Poverty Line	Income < 200% of Poverty Line
	All	All	All	All	Husband Observed	Husband Observed
Women:	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Women first observed ages 70–71						
Less than age 70 in 2000	–0.0265* (0.0135)		–0.0314** (0.0158)		–0.0165 (0.0150)	–0.0104 (0.0228)
Aged 69 in 2000		–0.0118 (0.0241)		–0.0166 (0.0292)		
Aged 68 in 2000		–0.0163 (0.0258)		–0.0028 (0.0310)		
Aged 67 in 2000		–0.0491** (0.0231)		–0.0090 (0.0285)		
Aged 66 in 2000		–0.0392 (0.0252)		–0.0659** (0.0287)		
Aged 65 or younger in 2000		–0.0236 (0.0163)		–0.0418** (0.0190)		
Husband less than age 70 in 2000					0.0295* (0.0162)	–0.0040 (0.0222)
Combined effect of husband and wife less than age 70 in 2000					0.0130 (0.0106)	–0.0143 (0.0191)
Number of observations	2,721	2,721	2,721	2,721	1,522	1,522
Panel B: Women first observed ages 75–76						
Less than age 70 in 2000	0.0283* (0.0166)		0.0369* (0.0189)		0.0360* (0.0203)	0.0660** (0.0286)
Aged 69 in 2000		0.0230 (0.0296)		–0.0207 (0.0328)		
Aged 68 in 2000		0.0211 (0.0291)		0.0085 (0.0325)		
Aged 67 in 2000		0.0256 (0.0348)		0.0258 (0.0375)		
Aged 66 in 2000		0.0014 (0.0302)		–0.0048 (0.0346)		
Aged 65 or younger in 2000		0.0503** (0.0228)		0.1087*** (0.0260)		
Husband less than age 70 in 2000					–0.0031 (0.0221)	0.0007 (0.0299)
Combined effect of husband and wife less than age 70 in 2000					0.0328* (0.0189)	0.0667** (0.0274)
Number of observations	1,781	1,781	1,781	1,781	1,003	1,003

Note. See notes to Tables 1, 2, and 4. Effects were similar using probit models. Heteroscedasticity-consistent (White) standard errors are reported and used for calculating significance levels. Poverty is based on the sum of adjusted Social Security benefits and other income relative to the poverty line (all in 2013 dollars). Note that relative to the corresponding earlier tables, we lose a small number of observations because they reside in a nursing home and are assigned a missing value for poverty. (The RAND Health and Retirement Study provides an indicator for whether those living in institutionalized facilities are living in poverty. We view this measure as less salient for policy analysis regarding income support provided by Social Security. Individuals residing in institutionalized facilities are likely worse off due to considerations other than income and may be required to spend a large amount of resources on care.) All women in the ages 75–76 sample (Panel B) have a full retirement age (FRA) equal to age 65. As a result, the "FRA greater than age 65" variable is excluded from the specifications in this panel.

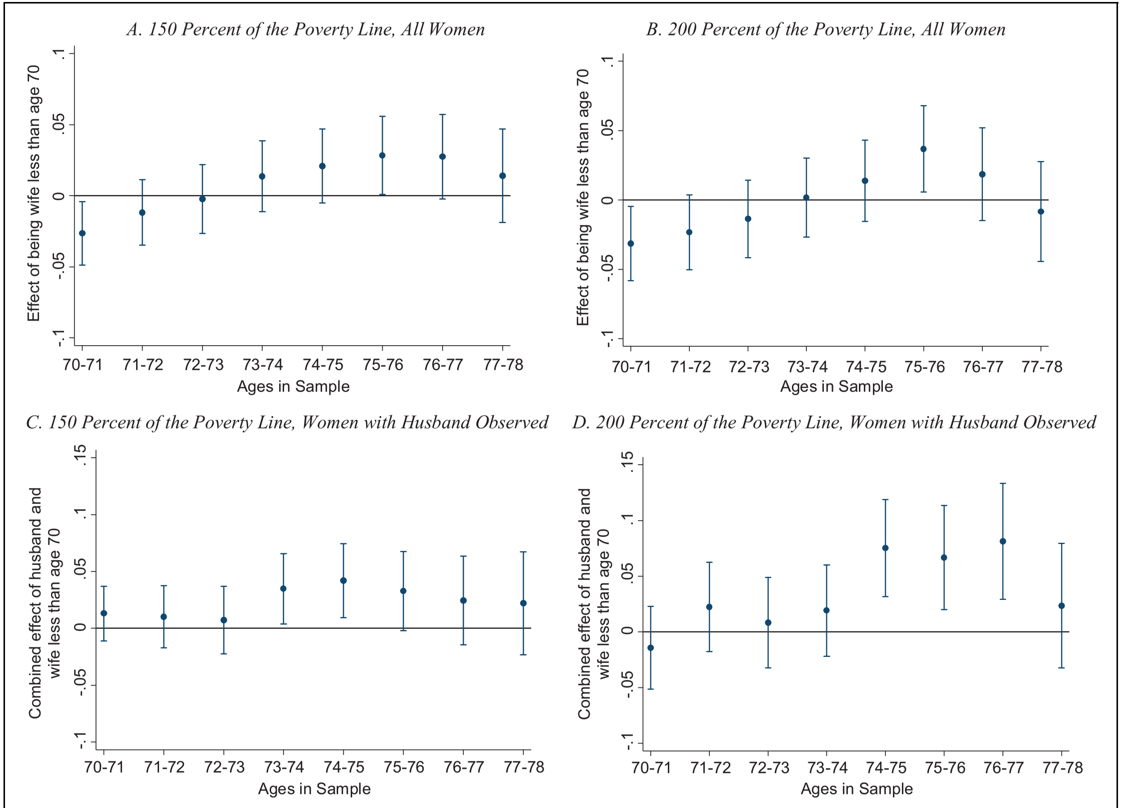

Figure 4. Results on the incidence of low income relative to poverty, additional ages, all women. Ninety percent confidence intervals are shown. Only results for those born between 1925 and 1940 are shown. The results graphed for ages 70–71 and 75–76 in the top row correspond to the estimates in Panels A and B, columns 1 and 2, of Table 5, and those in the bottom row correspond to columns 5 and 6 in Table 5.

below either 150% or 200% of the poverty line, by around 3 percentage points (significant at the 5% or 10% level).

The results are reversed for the older sample aged 75–76, reported in the bottom panel. Women's exposure to the elimination of the RET is now associated with a *higher* probability of income below either 150% or 200% of the poverty line, by 2.8–3.7 percentage points (significant at the 10% level). The differences for the older sample suggest that as women move into their mid-70s, the effect of lower Social Security benefits from early claiming dominates the effects of higher earnings (and whatever effect those higher earnings had on income from savings).[15]

Columns 2 and 4 turn to the dose–response relationship. For the sample aged 70–71, the expected relationship is not clear for the 150% threshold; for the 200% threshold, although not monotonic, the estimates are largest for the women exposed relatively longer. In Panel B, for the older sample, the estimate is always largest (and only statistically significant) for women exposed the longest.

Columns 5 and 6 turn to the sample of women with husbands observed, and include the husbands' exposure to the elimination of the RET. In Panel A, for younger women, the estimates for women's exposure to the elimination of the RET are smaller, although still negative. There is a positive estimated coefficient for husbands' exposure on the incidence of income below the 150% threshold, which again could be because of spousal or survivor benefits. Earlier, we argued that the combined effects are of greatest interest, and the last row of Panel A suggests small and insignificant effects. In Panel B, for the older sample of women, the estimated coefficient for women's exposure to the elimination of the RET is always positive and significant (at the 5% or 10% level). The estimate is 3.6 percentage points for the 150% threshold and nearly twice that for the 200% threshold. The estimates for husbands' exposure to the elimination of the RET are near 0, so the summed coefficients are similar to those for women alone.[16] Again, the differences relative to the results for the sample aged 70–71 suggest that, as women age into their mid-70s, the effect of lower Social Security benefits from early claiming comes to dominate the effects of higher earnings.[17]

Figure 4 reports results paralleling those in Table 5, but for a wider range of age cutoffs. The estimates for ages 70–71 and 75–76 come from Table 5. The other estimates come from estimating the exact same specifications, but for the age ranges shown in the figures. The estimates suggest a rising likelihood, as women age into their mid-70s, that eliminating the RET led to having income below either the 150% or 200% thresholds; thus, this is not an idiosyncratic result only for the comparison between the 70- to 71-year-old samples and 75- to 76-year-old samples. The evidence in Figure 4 bolsters the conclusion that as women reach quite old ages, adverse effects of the elimination of the RET on their incomes emerge.

Conclusion

Eliminating the RET for those between the FRA and age 69, in 2000, increased the incentive to work for those in this age range and also increased the likelihood that those working claim Social Security benefits earlier. Thus, this policy change could increase earnings in the short run but reduce Social Security benefits in the longer run, with uncertain effects on family income (including benefits) at older ages—perhaps in particular for older women who are likely to outlive their spouses and reach the point where any extra labor income from the positive work incentives of eliminating the RET is no longer evident. Finding out whether this change in the RET increased the incidence of low income for older women is important for understanding not only the effects of the 2000 policy change, but also the potential effects of additional efforts to encourage work by eliminating or reducing the RET between age 62 and the FRA (see https://www.govtrack.us/congress/bills/113/hr174/summary, retrieved April 6, 2016), which currently reduces benefits by US$1 for every US$2 of earnings.

We first confirm past findings that the elimination of the RET appears to have led to earlier claiming of benefits for women. Second, we find that Social Security benefits at the individual and family level are generally lower for those exposed to the elimination of the RET. Finally, our evidence points to the elimination of the RET reducing the incidence of low income initially—when women are at or just above age 70—but increasing the incidence of low income as women age into their mid-70s and beyond. These findings suggest that the incidence of low income among old women was increased by the elimination of the RET.

We are cautious about the evidence because identification comes from cross-cohort differences. In the absence of a more compelling quasi-experiment, we discuss evidence on the expected dose–response, for which we find some evidence that cohorts exposed to the elimination of the RET at younger ages exhibited stronger changes in behavior, although this pattern is not always so clear and consistent. On the other hand, forward-looking or joint husband–wife responses to the RET can complicate the expected dose–response relationship.

This type of analysis could be extended to examine labor income, saving, and other sources of income that might be affected by the elimination of the RET; how widowhood influences the effects of eliminating the RET; the role of Medicare Part B premiums, which the HRS data do not measure; and effects on individuals and families more likely to be affected in one direction or the other by the elimination of the RET from the FRA through age 69 based on their prior earnings. The latter could provide useful information on the expected effects of eliminating or reducing the RET for those between 62 and the FRA, which may be more likely to affect behavior of those with lower skills and lower past earnings.

Authors' Note

This article was presented at the 17th Annual Joint Meeting of the Retirement Research Consortium, August 6–7, 2015, Washington, DC. The findings and conclusions are solely those of the authors and do not represent the views of SSA, the US Department of the Treasury or any other agency of the federal government, or MRRC.

Acknowledgment

The authors are grateful to Howard Iams, Richard Johnson, and Randall Mariger for helpful comments and discussions.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors gratefully acknowledge support from the Social Security Administration (SSA).

Supplementary Material

Supplementary material for this article is available online.

Notes

1. The latter could reflect low skills, careers where it is difficult to reenter the labor market or increase earnings, or an income effect in response to husband's higher earnings stemming from removal of the retirement earnings test (RET).

2. For example, husbands much older than their wives may not account for the increase in the value of survivors' benefits for their wives from delayed claiming.
3. For cohorts born in 1938 and after, it is slightly more complicated (see Neumark & Song, 2013).
4. For example, Disney and Smith (2002) study the effect of eliminating the earnings test on employment in the United Kingdom. For employment, they can do a difference-in-differences estimation between older affected workers and younger controls. Because we focus on claiming Social Security benefits and the value of those benefits, the younger group is not usable as a control.
5. Beginning in 1997, the RET thresholds for those age 65–69 were raised by US$1,000 each year. The results described below are not sensitive to including a control that captures the value of the liberalized RET thresholds for the affected cohorts (results reported in Tables A4–A7 in Online Appendix).
6. The choice of 1995 is arbitrary; it means that we put all workers' benefits on an equivalent footing, regarding the average wage index, to a worker who was 65 in 2000.
7. There is a potential issue here of how to treat Medicare Part B premiums, which are deducted from Social Security benefits. Gross benefits (including Part B premiums), however, are used for the calculation of the official poverty rate. The self-reported Health and Retirement Study (HRS) Social Security benefits are likely net of the Part B premiums, which could lead us to understate income/poverty ratios. Iams and Purcell (2013) provide evidence that the Survey of Income and Program Participation, which also reports net Social Security benefits, understates the official poverty rate. Regardless, we clearly still estimate whether the elimination of the RET is associated with older women being more likely to have incomes below low thresholds related to the official poverty line.
8. We also estimate versions of this specification with dummy variables capturing years of exposure to the elimination of the RET.
9. We verified that our results are insensitive to including all those with positive benefit amounts (results available upon request).
10. We verified, in data subsequent to the 2002 wave, that our calculated low-income measures accurately predict the incidence of poverty or low income.
11. Table A1 in the Online Appendix shows that there is a substantial share of women receiving benefits based on their own earnings histories, especially in more recent years. But age at claiming for women claiming their own benefits may be affected by her husband's decision—for example, because of leisure complementarities (see Hurd 1990; Coile 2004; Stancanelli & van Soest, 2012).
12. See Table A3 in the Online Appendix. To create a similar sample, we limited the administrative data to men and women who are observed claiming benefits but

did not claim disability benefits. We limited the public data sample to individuals who report a claiming age of age 62 or older to avoid including individuals who are receiving disability benefits. Song and Manchester (2007) conduct the analysis for two treatment groups: those who had attained ages 65–69 by January 1 of the calendar year and those who turn age 65 during the year. We focus on replicating results for the first group, for which the RET is completely eliminated. The public data replicate the statistically significant increases in claiming for the treatment group that Song and Manchester (2007) find. The HRS administrative data, however, indicate small and statistically insignificant changes in claiming behavior for the treatment group.

13. We considered using administrative data on benefits, but given the difficulties encountered in the administrative data on age at claiming, we thought it preferable to do all the analysis with a consistent data set.
14. Given that separate effects for husbands and wives are less meaningful than the combined effects, the dose–response relationship is harder to characterize, and we do not report such specifications.
15. The estimates in Tables 3 and 4 suggest overall benefit declines in the range of around US$700–US$1,500. Estimates of earnings effects for primary earners in Song and Manchester (2007) suggest earnings gains of around US$1,000 (with a wide range) in roughly the 50th–80th percentiles of the earnings distribution, and no gains elsewhere, from eliminating the RET. Clearly, the annualized flow of income from the extra earnings over these ages (especially considering this occurs for only a subset of workers) would not be nearly enough to offset the lower benefits, consistent with the elimination of the RET appearing to have increased the incidence of low income among older women.
16. Given the increased share of widows in the older sample, we might have expected a stronger effect of husband's exposure to the elimination of the RET. But as already noted, it is difficult to pin down the separate effects of husband's and wife's ages when the RET was eliminated.
17. This might appear to contradict the evidence in Table 4 that family benefits are negatively related to the husband's exposure to the elimination of the RET. However, there can be both claiming/benefit and labor supply responses, and greater effects on income than on benefits from women's exposure to the elimination of the RET may be due to a weaker labor supply response for them than for their husbands, resulting in lower income by the ages at which the labor supply response has dissipated.

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