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DO OLDER ADULTS ACCURATELY FORECAST THEIR SOCIAL SECURITY BENEFITS?

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Working Paper 31023
http://www.nber.org/papers/w31023

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
March 2023

We thank Priyanka Anand for helpful discussion. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

At least one co-author has disclosed additional relationships of potential relevance for this research. Further information is available online at http://www.nber.org/papers/w31023

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Do Older Adults Accurately Forecast Their Social Security Benefits?
Grant M. Seiter and Sita Slavov
NBER Working Paper No. 31023
March 2023
JEL No. E21,H55,J14,J26

ABSTRACT

How accurate are older people's expectations about their future Social Security benefits? Using panel data from the Health and Retirement Study, we compare respondents' observed Social Security claiming ages and benefits with subjective expectations provided during their 50s and early 60s. We find that, while older adults generally have accurate expectations about their claiming age, they underestimate their annual Social Security income by approximately $1,896 (11.5 percent) on average. However, both accuracy and precision increase with age, and the forecast error for people in their early 60s is not statistically different from zero. Exploiting plausibly exogenous variation in the mailing of Social Security statements, which contain personalized information about future benefits, we show that information provision reduces the forecast error in annual income by $344 (2.1 percent of the average benefit).

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1. Introduction

Social Security is a major source of retirement income for most Americans (see, e.g., Dushi and Trenkamp, 2021). Having an accurate estimate of one's Social Security benefit can guide retirement planning and is particularly important for people approaching retirement. However, prior research suggests that many people do not have accurate expectations of their future benefits. For example, Turner and Rajnes (2021) document that an implausibly large fraction of the working-age population does not expect to receive Social Security benefits, while Prados and Kapteyn (2019) find that people, on average, overestimate their future Social Security benefits relative to the authors' projections.

In this paper, we use data from the Health and Retirement Study (HRS) – a biennial panel survey representative of the U.S. population aged 51 and older – to compare people's self-reported expectations of their Social Security benefits in their 50s and early 60s to their observed Social Security benefits. We examine how both the bias and variance of forecasts evolve with age. We also examine the impact of information provision on forecast errors. In 1995, the Social Security Administration began mailing Social Security statements – containing personalized estimates of benefits available at alternative claiming ages – to future beneficiaries around three months before their birthdays. We exploit arguably exogenous variation in the timing of statement mailings (including year-to-year, policy-induced variation in which age groups received statements, and the timing of interviews relative to respondents' birthdays) to examine whether forecast errors fall following statement receipt.

The most closely related papers in the literature are Bernheim (1987), Rohwedder and van Soest (2006), Mastrobuoni (2011), Smith and Couch (2014), Smith (2020), and Armour (2020). Bernheim (1987) used data from the Retirement History Survey, conducted from 1969-1979, and found that people underestimated their Social Security income by 6-10 percent. Rohwedder and van Soest (2006) compared reported expectations and realizations in the HRS with a focus on the later-life well-being of those who overestimated their benefit. Smith and Couch (2014) found that the Social Security statement receipt improves people's knowledge about the program's rules, while Armour (2020) found that receiving a Social Security statement increases both the likelihood of expecting to receive Social Security and the expected amount of income. Mastrobuoni (2011) used HRS data to show that statement receipt increases the likelihood that a respondent provides

an estimated Social Security benefit and that the standard deviation of the forecast error distribution is smaller following statement receipt. There is mixed evidence for the impact of statement receipt on claiming behavior (Mastrobuoni, 2011; Armour, 2020; Smith, 2020). We extend this prior work by examining the within-person evolution of forecast errors by age and the impact of statement receipt on that trajectory.

We find that, while older adults generally have accurate expectations about their claiming age, they underestimate their annual Social Security income by approximately $1,896 (11.5 percent of the mean benefit) on average. However, both accuracy and precision increase with age, and the forecast error for people in their early 60s is not statistically different from zero. We also find that receiving one or more Social Security statements reduces the forecast error in annual Social Security income by $344 (2.1 percent of the average benefit).

2. Data and Methods

A. Health and Retirement Study Data

Our data are sourced from the Health and Retirement Study (HRS), a biennial national longitudinal survey conducted by the University of Michigan.[1] The survey provides detailed demographic, financial, and expectations data on a nationally representative set of individuals over the age of 50 and their spouses or partners. Crucially, the HRS collects information about respondents' expected and actual Social Security claiming ages and benefit amounts. We use data from the HRS waves 1-14, covering the years 1992-2018. The first HRS survey was conducted among 12,652 individuals born between 1931 and 1934. A new cohort was added in 1998 when the survey was merged with the Study of Assets and Health Dynamics. Additional cohorts include the "children of the depression" and "war baby" cohorts born between 1924-1930 and 1942-1947, respectively, as well as the early, mid, and late "baby boomer" cohorts born between 1948 and 1965. We primarily use cleaned versions of the HRS compiled by the RAND Center for the Study of Aging. Specifically, we merge the RAND HRS Longitudinal File (2018, version 2) with Social Security expectations variables obtained from the RAND HRS Fat Files (1992-2018).

[1] The HRS is funded by the National Institute on Aging (grant number NIA U01AG009740) and the Social Security Administration.

B. Observed and Expected Social Security Income

Our observed Social Security income variable is the respondent's income (reported in nominal dollars) from Social Security retirement, spouse, or widow benefits in the last calendar year. We define a respondent's observed Social Security income as the benefit received in the *second* wave of Social Security receipt; this definition is consistent with the expectation questions, which refer to benefits at the time of anticipated claiming, while recognizing that the first wave of receipt may reflect a partial year.[2] For expected Social Security income, we obtain variables for each wave from the corresponding year RAND HRS Fat File. There has been some year-to-year variation in the Social Security expectations questions (see Rohwedder and van Soest, 2006 for further details). In 2018, the relevant questions about expectations were:

- "Do you expect to receive Social Security benefits at some time in the future?"
- "At what age do you expect to start collecting these benefits?"
- "If you start collecting Social Security benefits then, about how much do you expect the payments to be in today's dollars?"

The respondent indicates whether the frequency of their expected income is per week, every two weeks/bi-weekly, month, year, other, or lump sum. We ignore "lump sum" and "other" frequencies and convert the remaining expectations to annual values. We also set expected income to zero for those who report not expecting to receive Social Security benefits.

We convert these monetary values to 2021 dollars using the Retroactive Consumer Price Index for All Urban Consumers (R-CPI-U-RS).[3] To inflate expected income, we use the index value for the calendar year and month in which the respondent's interview ended. For observed income, which is reported for the last calendar year, we use the index value for December of the previous year.

Both observed and expected Social Security income contain outliers. As Bernheim (1987) notes, some respondents provide "nonsensical" benefit forecasts. Outliers in observed Social Security income may arise from RAND's process for imputing missing values (Bugliari et al., 2022). To eliminate these extreme values, we winsorize the observed and expected Social Security income variables. We set the bottom and top 1 percent of their values equal to the first and 99th

[2] Hurd et al. (2003) suggest that these self-reports are fairly accurate.
[3] The R-CPI-U-RS is an index that incorporates most of the improvements made to the CPI since 1978. For more detail, see Stewart and Reed (1999).

percentile, respectively. The bottom 1 percent of values for both observed and expected income were all equal to zero and therefore remain unchanged. The resulting 3,157 winsorized observations are shown as hollow gray circles in Figure 1. The figure also displays the 99th percentiles of observed income ($32,693) and expected income ($45,079).

C. Forecast Error

We define the forecast error as $e_{it}^{y} = y_{it}^{E} - y_i$, where y_{it}^{E} represents respondent i's expectation of y provided in wave t, and y_i represents respondent i's observed value of y. The variable y may be either annual Social Security income (in 2021 dollars) or claiming age in months. For both variables, a negative forecast error indicates an underestimate. We also present estimates for two additional measures of Social Security income forecast error – relative error and absolute error. We define the relative income forecast error as $r_{it}^{y} = (y_{it}^{E} - y_i)/y_i$ and absolute income forecast error as $a_{it}^{y} = |e_{it}^{y}|$. Since the size of individual benefits vary, the relative error measure may provide a better assessment of whether errors are large or small at the individual level. The absolute error helps assess the overall accuracy of the forecasts, regardless of whether they are over- or underestimated.

D. Social Security Statement Indicators

In fiscal year 1995, the Social Security Administration initiated a program to automatically mail personalized statements to individuals. These statements include the recipient's earnings history and projected benefits payable at different claiming ages. They also provide information on disability, spousal, and survivor benefits payable on the recipient's record. However, they do not include information on benefits that an individual may be eligible for based on the earnings record of a spouse or former spouse.

We rely on information from Smith (2020), Smith (2015), Armour (2018), and Armour (2020) to trace the history of Social Security statement mailings and construct indicators for statement receipt. Statement mailings were rolled out by age, starting with those aged 60 and above. Younger age groups received statements in subsequent years, as shown in Table 1. Starting in 2000, all adults 25 and above with covered earnings received annual statements. However, statement mailings were suspended in March 2011 due to budgetary constraints. A more limited reintroduction of statement mailings began in September 2014, with statements sent to those aged 60 and above, as well as individuals aged 25 and above who reached an age that is a multiple of

five. Since 2017, only individuals aged 60 and older have received statements. Following the availability of online statements to all adults in 2012, only individuals who had not yet created an online account with the Social Security Administration received statements after the 2014 reintroduction of mailings.

Using this timeline and the fact that statements are mailed around three months before a recipient's birthday, we count the number of statements an individual should have received between consecutive HRS interviews. We assume that all individuals in a targeted age group received a statement; that is, we do not consider the presence of an online account or covered earnings. Thus, some individuals classified as having received statements were not in fact treated. That is, they either did not receive a statement (e.g., if they already had an online account) or received statements that did not provide information about the benefit they anticipated receiving (e.g., if they anticipated a spousal benefit). This measurement error is likely to bias our estimates of the Social Security statement's impact towards zero.

E. Sample Selection

We focus solely on Old Age and Survivors Insurance (OASI) benefits received on either the respondent's or spouse's earnings record by excluding respondents who ever reported a disability episode. Additionally, we limit the sample to respondents aged 51 and older who are observed through age 72. Since Social Security benefits do not grow with delay beyond age 70, this restriction gives all eligible respondents the opportunity to report previous calendar-year Social Security income in at least two waves. We also exclude respondents who have zero Social Security income in all waves and drop waves with missing expected benefits.[4] Finally, we concentrate on waves prior to a respondent claiming Social Security by excluding waves in which Social Security income is positive, as well as waves after the respondent's observed Social Security claiming age or full retirement age. The steps of sample selection and observation counts are shown in Table 2. Our full sample contains 5,087 individuals with 14,179 person-wave observations.

F. Model

All analysis is performed at the person-wave level using expectations provided before Social Security receipt. We estimate the following regression:

[4] Individuals reporting zero Social Security in all waves constitute about 4 percent of the sample, which is in line with Whitman, Reznik, and Shoffner's (2011) estimate of the fraction of people who never receive Social Security.

$$z_{it}^{y} = \sum_{a} \beta_a I(age_{it} = a) + \mu_i + \lambda_t + \epsilon_{it}. \quad (1)$$

In this equation, z_{it}^{y} is any measure of the forecast error, $I(age_{it} = a)$ is equal to 1 if respondent i's age is equal to a in wave t and zero otherwise, μ_i is an individual fixed effect, λ_t is a wave fixed effect, and ϵ_{it} is a stochastic error term. The coefficients β_a tell us how z_{it}^{y} evolves with age. To study the impact of statement receipt, we add indicators to Equation (1) for whether respondent i received any statements or alternatively for the number of statements (between 1 and 3) that respondent i received, between waves $t-1$ and t.

3. Results

Table 3 presents summary statistics for our sample,[5] and Tables 4 and 5 present the full distribution of forecast errors. Table 3 suggests that approximately 10 percent of respondents – all of whom eventually collect Social Security – do not expect benefits. This fraction is smaller than estimates from surveys that include people of all ages – for example, Armour (2020) finds that 31 percent of respondents do not expect benefits. Table 4 shows that the mean Social Security income forecast error is -$1,897 (an 11.5 percent underestimate relative to the mean observed benefit), but there is considerable variance: 25 percent underestimate their benefit by $5,167 or more, and 10 percent overestimate by $5,319 or more. As those who claim benefits later receive an actuarial adjustment resulting in larger monthly benefits, people may underestimate their benefit at the time of claiming if they have underestimated their claiming age. However, Table 5 suggests that people have fairly accurate expectations of their claiming age: they underestimate by less than one month on average, and more than half the forecasts are within six months of the observed claiming age.

Both the magnitude and standard deviation of the benefit forecast error (e_{it}^{y}) decline with age. To illustrate, Figure 2 displays histograms of the income forecast error for people aged 51-54, as well as for 61-year-olds (who are just below the earliest eligibility age). The distribution for 61-year-olds is centered around zero and has thinner tails. Figures 3 and 4 show how the mean and standard deviation of the income and claiming age forecast errors, respectively, evolve with age. Figure 3 confirms that the mean and standard deviation of the benefit forecast error decline in magnitude with age. According to Figure 4, the mean of the claiming age forecast error is not

[5] Summary statistics by sex, education, race, and wealth are available in Appendix A.

statistically different from zero at most ages; however, the standard deviation declines with age. Figure 5 displays the predictive margins of age from estimating Equation (1) with income forecast error (e_{it}^{y}) as the dependent variable.[6] It suggests that even after controlling for survey wave and individual-specific factors, forecast error declines with age, and that people in their early 60s provide forecasts that are not statistically different from their observed benefits.

Table 6 presents the coefficients on the statement receipt indicators that were added to Equation (1). The first column suggests that receiving one or more statements increases e_{it}^{y} by $344 (2.1 percent relative to the mean). As the mean forecast error is negative, the positive coefficient indicates a movement towards zero – i.e., a more accurate estimate. Indeed, the predictive margins suggest that those who did not receive a statement underestimate benefits by $1,949, while those who received one or more statements underestimate benefits by only $1,605. The coefficients on receiving two or three statements (column 2) are insignificant and imprecisely estimated. Table 6 also suggests that receipt of one or more statements reduces the relative forecast error. The coefficient on the statement receipt indicator implies a 3.6 percentage point increase in r_{it}^{y} (column 3). Again, this positive coefficient indicates a movement towards zero (improved accuracy). The predictive margins suggest that those who did not receive a statement underestimated benefits by 4.0 percent, while those who received one or more statements underestimated benefits by only 0.4 percent. When the dependent variable is the absolute error, the coefficients on the statement receipt indicators have the expected negative sign; however, they are insignificant at the 5 percent level.

4. Conclusions

Our findings suggest that older adults generally have accurate expectations of their Social Security claiming age but underestimate their annual Social Security income by $1,896 (11.5 percent of the mean) on average. However, the accuracy and precision of income forecasts improve with age, with the forecast error for people in their early 60s not being statistically different from zero. Furthermore, the provision of personalized information about future Social Security benefits through Social Security statements has a statistically significant impact on reducing forecast error.

[6] Full results for all error measures are available in Appendix B.

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Table 1: Social Security Statement Mailings by Year and Age

Fiscal Year	Age Groups Receiving Statements
1995	60+
1996	58-60
1997	53-58
1998	47-53
1999	40-47
2000–Feb. 2011	25+
Sep. 2014–2016	25, 30, 35, 40, 45, 50, 55, 60+ who do not have online Social Security account
2017–Present	60+ who do not have online Social Security account

Notes: This table shows which age groups received Social Security statements in each year starting in 1995. Information is drawn from Smith (2020), Smith (2015), Armour (2018), and Armour (2020).

Table 2: Sample Selection

	Individuals (n)	Person-Wave Observations (N)
Initial count from RAND HRS data (waves 1-14)	42,233	591,262
Drop no-response/dead waves	42,233	264,620
Drop if ever reported a disability episode	34,846	220,111
Keep if age 51+ and observed through age 72	16,878	136,530
Drop if zero Social Security income in all waves	16,488	133,707
Drop missing expected benefits waves	5,834	16,546
Drop if Social Security income is positive	5,829	16,535
Drop if after observed Social Security claiming age	5,348	15,084
Drop if after full retirement age	5,087	14,179

Notes: This table shows the steps of sample selection and observation counts for samples used in regressions. Data are unweighted.

Table 3: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max	Individuals
Age	58.45	2.31	51.00	65.00	5,087
Expect Zero Social Security Income	0.10	0.26	0.00	1.00	5,087
Expected Social Security Income	$14,590.34	$7,492.41	$0.00	$45,079.60	5,087
Observed Social Security Income	$16,532.10	$6,984.62	$129.95	$32,693.09	5,061
Expected Claiming Age (Months)	763.71	22.96	624.00	1,080.00	4,770
Observed Claiming Age (Months)	763.36	23.67	642.00	970.00	4,807

Notes: Standard deviations, minimums, and maximums are between values (i.e., calculated across person-level means). Data are unweighted.

Table 4: Social Security Income Forecast Error, Detailed Summary Statistics

	Income Forecast Error $(e_{it}^{y} = y_{it}^{E} - y_i)$	Relative Income Forecast Error $(r_{it}^{y} = (y_{it}^{E} - y_i)/y_i)$	Absolute Income Forecast Error $(a_{it}^{y} = \lvert e_{it}^{y} \rvert)$
Mean	-$1,896.68	-0.02	$5,162.86
Std. Dev	$6,138.17	1.68	$4,598.87
5th Percentile	-$14,476.49	-1.00	$259.89
10th Percentile	-$10,658.96	-0.87	$512.06
25th Percentile	-$5,167.17	-0.31	$1,356.92
50th Percentile	-$1,115.59	-0.07	$3,328.54
75th Percentile	$1,670.56	0.12	$7,090.88
90th Percentile	$5,319.84	0.44	$12,381.23
95th Percentile	$8,660.23	0.78	$16,542.29
N	14,108	14,108	14,108

Notes: This table shows detailed summary statistics for Social Security income forecast error (main, relative, and absolute). Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

Table 5: Social Security Claiming Age Forecast Error, Detailed Summary Statistics

	Claiming Age Forecast Error (Months) $e_{it}^{y} = y_{it}^{E} - y_i$
Mean	0.74
Std. Dev	21.45
5th Percentile	-37
10th Percentile	-25
25th Percentile	-6
50th Percentile	-1
75th Percentile	6
90th Percentile	33
95th Percentile	36
N	11,948

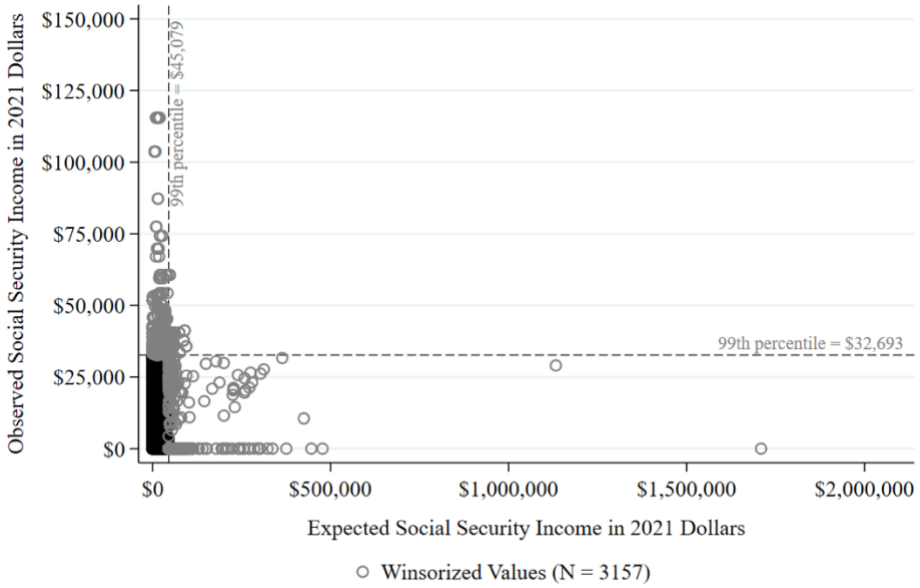
Notes: This table shows detailed summary statistics for Social Security claiming age forecast error. Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

Table 6: Regression Estimates for Impact of Statement Receipt on Social Security Income Forecast Error and Claiming Age Forecast Error

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	Income Forecast Error	Income Forecast Error	Relative Income Forecast Error	Relative Income Forecast Error	Absolute Income Forecast Error	Absolute Income Forecast Error	Claiming Age Forecast Error (Months)	Claiming Age Forecast Error (Months)
Received One Statement		331.7**		0.0359**		-71.56		-0.0525
		(143.4)		(0.0171)		(110.5)		(0.508)
Received Two Statements		16.17		0.0440		-72.66		-0.828
		(584.3)		(0.0634)		(459.4)		(1.911)
Received Three Statements		528.8		0.0458		-869.0*		-2.824
		(572.8)		(0.0836)		(454.1)		(2.058)
Received Any Statements	344.0**		0.0359**		-89.27			
	(142.8)		(0.0170)		(110.2)			
Constant	-1,615	-1,569	0.230	0.232	6,429***	6,238***	1.480	0.763
	(1,085)	(1,084)	(0.260)	(0.273)	(790.7)	(788.1)	(3.954)	(3.978)
Observations	11,177	11,177	11,177	11,177	11,177	11,177	9,476	9,476
R-Squared	0.063	0.064	0.009	0.009	0.076	0.077	0.043	0.044
Individuals	4,382	4,382	4,382	4,382	4,382	4,382	3,914	3,914

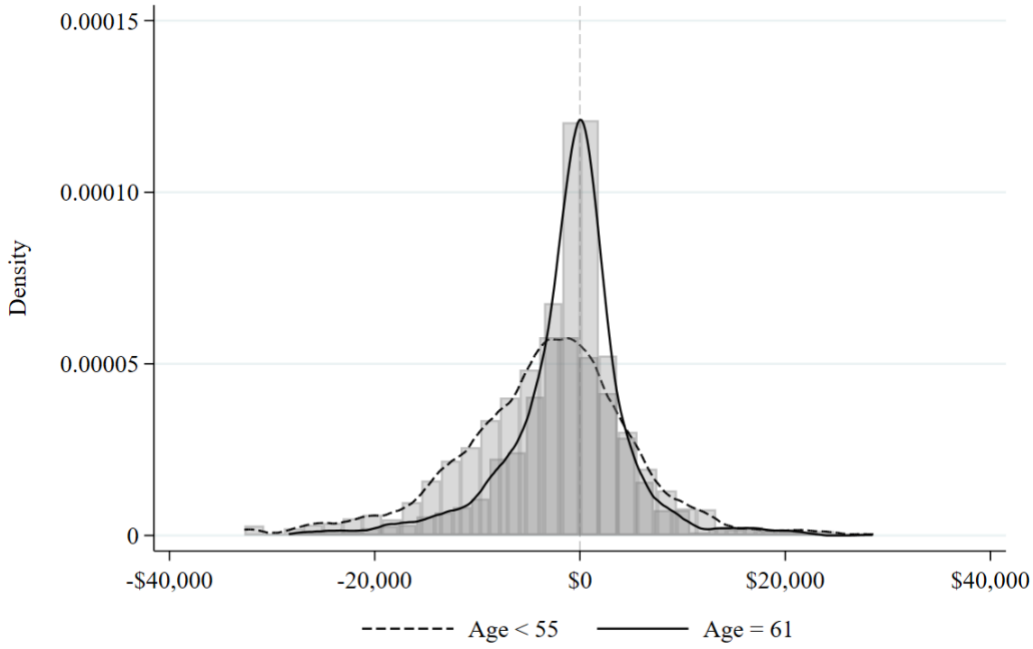
Notes: This table shows results based on adding statement receipt indicators to Equation (1) with Social Security income forecast error (main, relative, and absolute in columns 1-6) and claiming age forecast error (columns 7 and 8) as dependent variables. All regressions include age dummies, and individual and wave fixed effects. Robust standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Winsorized Values of Observed and Expected Social Security Income



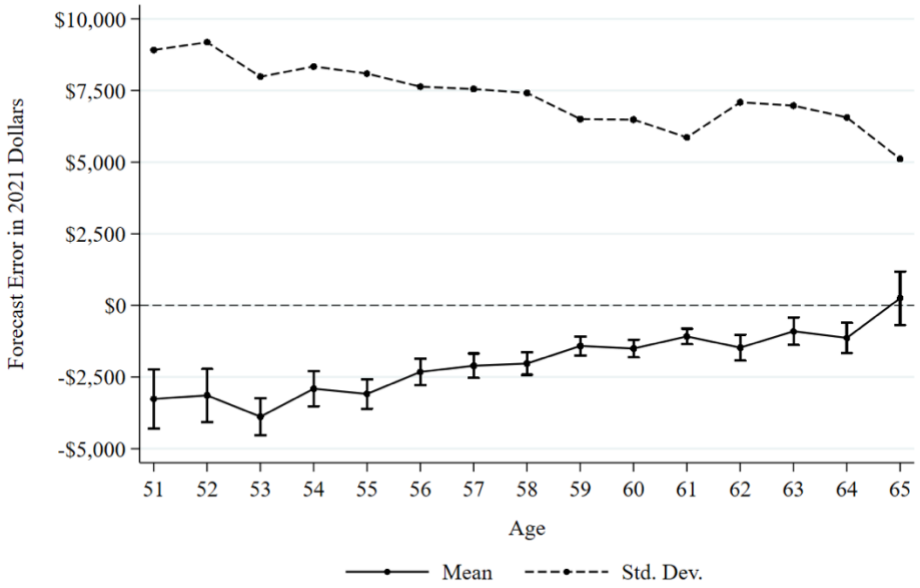
Notes: This figure shows the winsorized observations (displayed as hollow gray circles) for observed and expected Social Security income. The vertical line indicates the 99th percentile of expected income and the horizontal line indicates the 99th percentile of observed income.

Figure 2: Social Security Income Forecast Error, Histogram by Age



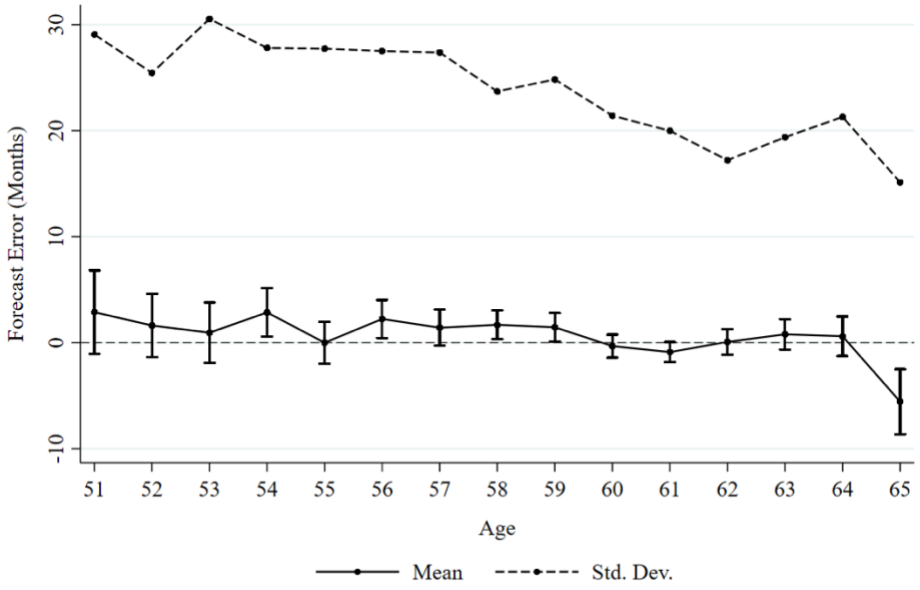
Notes: Bars represent histograms of Social Security income forecast error for 51–54-year-olds and 61-year-olds. Lines depict Epanechnikov kernel estimates with a $1,000 bin width.

Figure 3: Social Security Income Forecast Error, Mean and Standard Deviation by Age



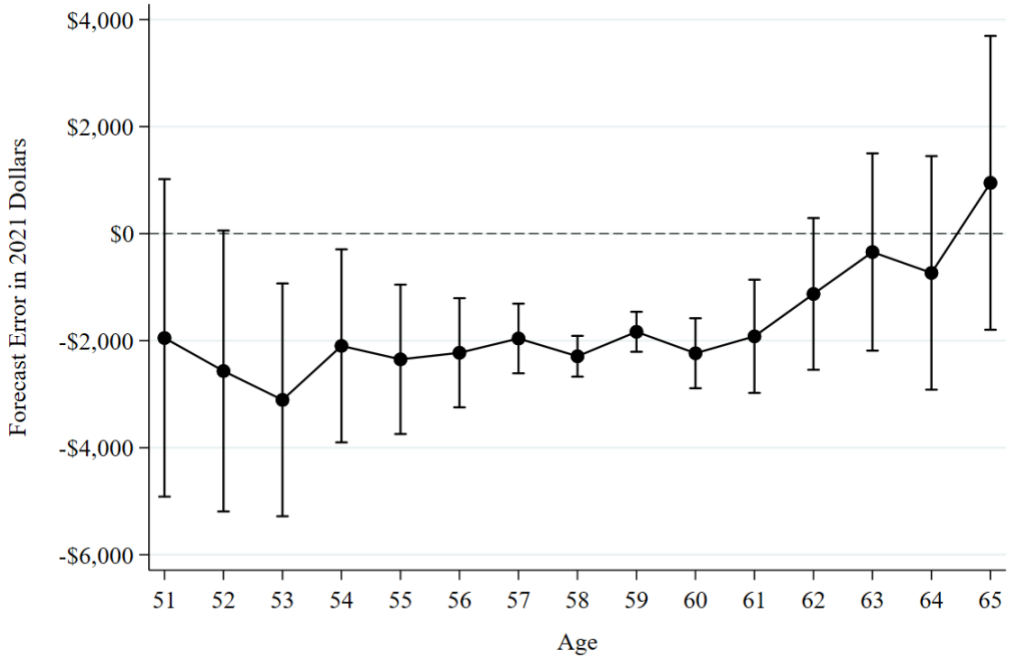
Notes: This figure shows the mean and standard deviation of Social Security income forecast error by respondent age. Bars represent 95 percent confidence intervals.

Figure 4: Social Security Claiming Age Forecast Error, Mean and Standard Deviation by Age



Notes: This figure shows the mean and standard deviation of Social Security claiming age forecast error by respondent age. Bars represent 95 percent confidence intervals.

Figure 5: Social Security Income Forecast Error, Predictive Margins by Age



Notes: Dots represent predictive margins of age from Equation (1). See full regression results in Appendix B. Bars represent 95 percent confidence intervals.

Appendix

A. Summary Statistics by Subgroup

The tables below present the same summary statistics as in Tables 3-5 in the main text, but broken down by sex, education, race, and wealth. We construct indicators for being female, having a college degree, race, and being in the top half of the initial wealth distribution (in the respondent's first observed wave). Wealth is defined at the household level as assets minus debt. Assets include non-retirement financial wealth, real estate, vehicles, and businesses; it also includes retirement wealth held in individual retirement accounts and current employer defined contribution plans. Additionally, we compute difference in means for subgroups and present p-values for *t* tests on the equality of means.

Appendix Table 1: Summary Statistics by Sex with *t*-test Difference in Means

	Male (*N*=6,603)		Female (*N*=7,576)		Difference in Means	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Male - Female	*p*-value
Age	58.68	3.30	58.26	3.28	0.42	0.000
Expect Zero Social Security Income	0.07	0.26	0.12	0.32	-0.05	0.000
Expected Social Security Income	$17,914.97	$8,900.49	$11,692.69	$7,345.97	$6,222.28	0.000
Observed Social Security Income	$19,749.29	$6,974.78	$13,725.65	$6,197.87	$6,023.63	0.000
Income Forecast Error	-$1,797.53	$7,726.81	-$1,983.18	$6,749.70	$185.64	0.128
Relative Income Forecast Error	-0.01	1.45	-0.03	1.36	0.02	0.336
Absolute Income Forecast Error	$5,452.64	$5,761.90	$4,910.07	$5,037.86	$542.57	0.000
Expected Claiming Age (Months)	766.48	26.32	761.16	24.61	5.31	0.000
Observed Claiming Age (Months)	766.03	22.39	760.90	23.94	5.13	0.000
Claiming Age Forecast Error (Months)	0.81	23.82	0.69	24.01	0.12	0.784

Notes: This table shows summary statistics by sex. Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

Appendix Table 2: Summary Statistics by College Education with *t*-test Difference in Means

	No College (*N*=7,231)		College (*N*=6,945)		Difference in Means	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	No College - College	*p*-value
Age	58.41	3.21	58.50	3.39	-0.09	0.089
Expect Zero Social Security Income	0.10	0.30	0.10	0.30	0.00	0.904
Expected Social Security Income	$13,381.36	$7,723.14	$15,849.15	$9,415.12	-$2,467.79	0.000
Observed Social Security Income	$15,368.58	$6,541.71	$17,741.26	$7,691.02	-$2,372.69	0.000
Income Forecast Error	-$1,960.93	$6,665.05	-$1,829.92	$7,759.42	-$131.01	0.282
Relative Income Forecast Error	-0.05	1.14	0.00	1.62	-0.05	0.031
Absolute Income Forecast Error	$4,768.65	$5,052.27	$5,573.91	$5,699.53	-$805.27	0.000
Expected Claiming Age (Months)	760.06	23.26	767.53	27.29	-7.47	0.000
Observed Claiming Age (Months)	760.39	22.52	766.54	23.80	-6.15	0.000
Claiming Age Forecast Error (Months)	0.04	22.74	1.50	25.10	-1.46	0.001

Notes: This table shows summary statistics by college education. Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

Appendix Table 3: Summary Statistics by Race with *t*-test Difference in Means

	Not White (*N*=1,927)		White (*N*=12,252)		Difference in Means	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Not White - White	*p*-value
Age	58.27	3.39	58.48	3.28	-0.21	0.008
Expect Zero Social Security Income	0.14	0.35	0.09	0.29	0.05	0.000
Expected Social Security Income	$13,207.34	$9,037.64	$14,807.86	$8,603.35	-$1,600.52	0.000
Observed Social Security Income	$14,908.00	$7,356.35	$16,787.95	$7,171.53	-$1,879.95	0.000
Income Forecast Error	-$1,672.58	$8,133.45	-$1,931.99	$7,067.13	$259.41	0.143
Relative Income Forecast Error	0.09	2.15	-0.04	1.24	0.13	0.000
Absolute Income Forecast Error	$5,885.45	$5,856.22	$5,049.02	$5,308.72	$836.43	0.000
Expected Claiming Age (Months)	762.67	27.19	763.86	25.33	-1.19	0.078
Observed Claiming Age (Months)	765.18	27.87	763.08	22.56	2.11	0.000
Claiming Age Forecast Error (Months)	-0.87	27.35	0.98	23.37	-1.84	0.005

Notes: This table shows summary statistics by race. Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

Appendix Table 4: Summary Statistics by Initial Wealth with *t*-test Difference in Means

	Bottom Half (*N*=5,239)		Top Half (*N*=8,940)		Difference in Means	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Bottom - Top	*p*-value
Age	58.34	3.37	58.52	3.26	-0.19	0.001
Expect Zero Social Security Income	0.12	0.32	0.09	0.28	0.03	0.000
Expected Social Security Income	$13,211.29	$8,269.45	$15,398.48	$8,813.57	-$2,187.19	0.000
Observed Social Security Income	$15,336.03	$6,777.59	$17,231.15	$7,386.11	-$1,895.12	0.000
Income Forecast Error	-$2,055.13	$7,053.01	-$1,804.08	$7,317.37	-$251.04	0.046
Relative Income Forecast Error	-0.05	1.30	0.00	1.46	-0.05	0.062
Absolute Income Forecast Error	$5,163.28	$5,225.40	$5,162.61	$5,490.30	$0.67	0.994
Expected Claiming Age (Months)	765.60	25.87	762.64	25.35	2.96	0.000
Observed Claiming Age (Months)	763.80	24.48	763.10	22.65	0.70	0.094
Claiming Age Forecast Error (Months)	2.27	25.00	-0.13	23.23	2.41	0.000

Notes: This table shows summary statistics by top and bottom half of the initial wealth distribution (in the respondent's first observed wave). Standard deviations are between values (i.e., calculated across person-level means). Data are unweighted.

B. Equation (1) Regression Results (Age Coefficients)

Appendix Table 5: Regression Estimates for Age on Social Security Income Forecast Error and Claiming Age Forecast Error

Variables	(1) Income Forecast Error	(2) Relative Income Forecast Error	(3) Absolute Income Forecast Error	(4) Claiming Age Forecast Error (Months)
Age = 52	-618.0	-0.0925	173.3	-3.682*
	(629.9)	(0.102)	(473.9)	(2.055)
Age = 53	-1,158*	-0.232*	29.98	-3.940*
	(610.3)	(0.124)	(445.0)	(2.119)
Age = 54	-148.5	-0.0763	-36.55	-2.787
	(784.0)	(0.121)	(579.5)	(2.568)
Age = 55	-399.8	-0.193	110.1	-4.763
	(909.1)	(0.145)	(657.4)	(3.083)
Age = 56	-277.2	-0.0940	75.23	-4.822
	(1,090)	(0.151)	(804.1)	(3.610)
Age = 57	-10.23	-0.202	110.4	-4.628
	(1,269)	(0.164)	(929.5)	(4.242)
Age = 58	-342.7	-0.189	138.0	-4.853
	(1,436)	(0.178)	(1,062)	(4.772)
Age = 59	114.9	-0.187	-193.3	-6.060
	(1,629)	(0.204)	(1,191)	(5.453)
Age = 60	-286.5	-0.195	-247.0	-6.850
	(1,811)	(0.213)	(1,341)	(6.024)
Age = 61	30.38	-0.216	-344.6	-8.216
	(2,021)	(0.241)	(1,481)	(6.757)
Age = 62	822.3	-0.152	-511.7	-1.780
	(2,197)	(0.254)	(1,623)	(7.289)
Age = 63	1,606	-0.112	-420.2	0.0765
	(2,408)	(0.282)	(1,768)	(7.997)
Age = 64	1,216	-0.197	-1,481	1.005
	(2,582)	(0.300)	(1,915)	(8.630)
Age = 65	2,898	-0.136	-2,398	-5.711
	(2,806)	(0.321)	(2,093)	(9.653)
Constant	-2,927***	0.0229	6,629***	2.070
	(614.9)	(0.104)	(452.7)	(2.156)
Observations	14,108	14,108	14,108	11,948
R-Squared	0.063	0.010	0.079	0.041
Individuals	5,061	5,061	5,061	4,524

Notes: This table shows results from the estimation of Equation (1) with Social Security income forecast error (main, relative, and absolute in columns 1-3) and claiming age forecast error (column 4) as dependent variables. All regressions include age dummies, and individual and wave fixed effects. Robust standard errors in parenthesis.
*** p<0.01, ** p<0.05, * p<0.1