

# Supplementary Appendices

## Failures of Contingent Reasoning in Annuitization Decisions

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## A Additional Experimental Details

Table A1: Financial incentives

	N	Expected payout		
		With annuity (I)	Without annuity (II)	Incentive to annuitize (I) - (II)
High-Price Benchmark	822	3.83 (1.04)	2.12 (0.52)	1.71 (1.00)
Low-Price Benchmark	822	5.70 (1.50)	2.12 (0.52)	3.58 (1.44)
High-Price No Status Quo	750	3.58 (1.05)	2.08 (0.54)	1.50 (0.95)
High-Price Salient Contingencies I	780	3.62 (1.05)	2.05 (0.54)	1.57 (0.97)
High-Price Salient Contingencies II	762	3.70 (1.05)	2.11 (0.52)	1.58 (0.99)
High-Price Salient Contingencies III	761	3.69 (1.07)	2.10 (0.53)	1.59 (0.98)
High-Price Salient Contingencies IV	829	4.56 (0.55)	2.06 (0.55)	2.50 (0.00)
High-Price Reverse Correlation	686	8.81 (1.08)	7.13 (0.52)	1.69 (1.02)
Low-Price Reverse-Correlation Salient Contingencies IV	686	12.13 (0.52)	7.13 (0.52)	5.00 (0.00)

Notes: This table reports the average expected payout for respondents by treatment conditions. Each row corresponds to a different treatment condition. Column 1 reports the average payout from the annuity option. Column 2 reports the average payout of the option that does not include an annuity. Column 3 reports the difference between columns 1 and 2, which represents the average monetary gain from choosing the annuity option. Standard deviations in parentheses. The Salient-Contingencies IV treatment involves adjusting savings levels so that the annuity is stochastically dominant. As a result, the incentive for choosing the annuity is exactly equal to \$2.50 for the high-price annuity and exactly equal to \$5.00 for the low-price annuity.

Table A2: Order of questions

Expected No. of Savings		Annuity Block 1		Savings	Annuity Block 2		Annuity Block 3	
Fraction	People	First			Second			(Added partway through)
Panel A: Benchmark								
1/8	426		Low-price Benchmark	High-price Benchmark	X	High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
1/8	396		High-price Benchmark	Low-price Benchmark	X	High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
Panel B: No Status Quo								
1/8	380		Low-price No Status Quo	High-price No Status Quo	X	High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
1/8	370		High-price No Status Quo	Low-price No Status Quo	X	High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
Panel C: Salient Contingencies								
1/16	209	X	Low-price Salient Contingencies I	High-price Salient Contingencies I		High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
1/16	193	X	High-price Salient Contingencies I	Low-price Salient Contingencies I		High-price Salient Contingencies II or III or IV	Low-price Salient Contingencies II or III or IV	
1/16	195	X	High-price Salient Contingencies II or III or IV			Low-price Salient Contingencies I	Low-price Salient Contingencies II or III or IV	
1/16	183	X	High-price Salient Contingencies II or III or IV			High-price Salient Contingencies I	Low-price Salient Contingencies II or III or IV	
Panel D: Reverse Correlation								
1/8	325		Low-price Reverse Correlation	High-price Reverse Correlation	X	Low-price Reverse-Correlation Salient Contingencies IV	High-price Reverse-Correlation Salient Contingencies IV	
1/8	361		High-price Reverse Correlation	Low-price Reverse Correlation	X	Low-price Reverse-Correlation Salient Contingencies IV	High-price Reverse-Correlation Salient Contingencies IV	

Notes: This table describes all of the different experimental cells for annuity take-up decisions. Cells in gray were not included in the pre-analysis plan nor in the analyses in the body of the paper. Additionally, the three possible wordings (“annuity,” “Social Security,” “insurance”) were randomized at the participant level, except for the reverse-correlation treatments, which used only the “insurance” wording.

## B Demographics

Table A3: Demographic characteristics

	Experimental Sample	U.S. Adult Population
Female	0.54	0.52
Age (median)	54.0	47.0
Bachelor's degree or higher	0.53	0.31
Employed	0.65	0.63
Household income (\$, median)	67500	78040
Non-Hispanic White	0.77	0.65
Non-Hispanic Black	0.06	0.13
Hispanic	0.09	0.16
Married	0.58	0.51
Financial literacy I (interest)	0.92	-
Financial literacy II (inflation)	0.85	-
Financial literacy III (risk exposure)	0.91	-

Notes: Column 1 of this table reports means (unless stated otherwise) for various demographic variables for the 3,038 participants who completed the study. The second column reports the statistics for the U.S. adult population living in households from the 2019 American Community Survey 1-Year Estimates Public Use Microdata Sample. The variable *Financial literacy* is an indicator for whether the participant answered the following three questions from Lusardi and Mitchell (2011) correctly: “Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, or less than \$102?” (which corresponds to Financial literacy I in the table above), “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account would you be able to buy: more than, exactly the same as, or less than today?” (Financial literacy II) and “Do you think that the following statement is true or false? Buying a single company stock usually provides a safer return than a stock mutual fund” (Financial literacy III).

## C Annuity Take-Up for All Treatment Cells

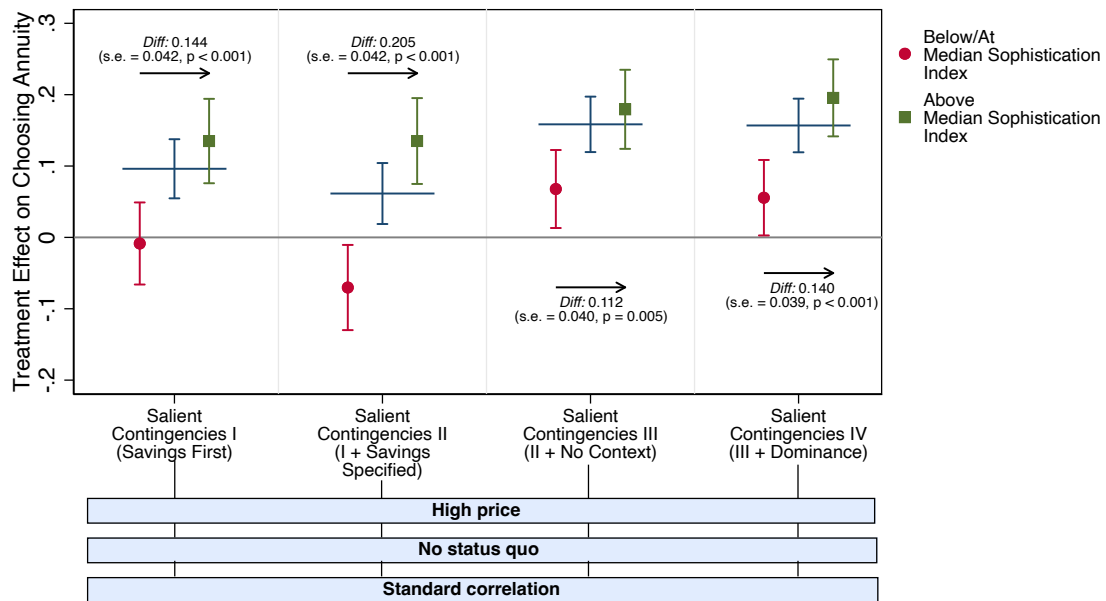
Table A4: Annuity take-up means for all treatment cells

	N	All wordings	Take-up mean by wording used “Annuity”	“Social Security”	“Insurance”
Panel A. Benchmark (has status quo, regular correlation)					
High price	822	0.714 (0.016)	0.660 (0.029)	0.752 (0.026)	0.726 (0.026)
Low price	822	0.882 (0.011)	0.873 (0.021)	0.903 (0.018)	0.870 (0.020)
Panel B. No Status Quo (has regular correlation)					
High price	750	0.752 (0.016)	0.738 (0.029)	0.749 (0.028)	0.767 (0.026)
Low price	750	0.827 (0.014)	0.797 (0.026)	0.831 (0.024)	0.848 (0.022)
Panel C. Reverse Correlation (only has “insurance” wording)					
<i>Status Quo, non-salient contingencies</i>					
High price	686	n/a n/a	n/a n/a	n/a n/a	0.656 (0.018)
Low price	686	n/a n/a	n/a n/a	n/a n/a	0.810 (0.015)
<i>No status quo, Salient Contingencies IV (III + dominance)</i>					
High price	432	n/a n/a	n/a n/a	n/a n/a	0.875 (0.016)
Low price	686	n/a n/a	n/a n/a	n/a n/a	0.854 (0.013)
Panel D. Salient Contingencies (has no status quo, regular correlation)					
<i>High price</i>					
Salient Contingencies I, (savings first)	780	0.810 (0.014)	0.805 (0.023)	0.801 (0.026)	0.826 (0.024)
Salient Contingencies II, (I + savings specified)	762	0.776 (0.015)	0.765 (0.026)	0.786 (0.027)	0.777 (0.026)
Salient Contingencies III, (II + no context)	761	0.873 (0.012)	0.888 (0.020)	0.866 (0.021)	0.863 (0.022)
Salient Contingencies IV, (III + dominance)	829	0.871 (0.012)	0.878 (0.020)	0.891 (0.019)	0.845 (0.022)

		Take-up mean by wording used			
	N	All wordings	“Annuity”	“Social Security”	“Insurance”
<b>Panel D (continued). Salient contingencies (has no status quo, regular correlation)</b>					
<i>Low price</i>					
Salient Contingencies I, (savings first)	780	0.864 (0.012)	0.869 (0.020)	0.838 (0.024)	0.884 (0.021)
Salient Contingencies II, (I + savings specified)	487	0.877 (0.015)	0.864 (0.027)	0.887 (0.026)	0.879 (0.025)
Salient Contingencies III, (II + no context)	528	0.879 (0.014)	0.868 (0.026)	0.891 (0.023)	0.876 (0.025)
Salient Contingencies IV, (III + dominance)	542	0.893 (0.013)	0.892 (0.024)	0.908 (0.021)	0.880 (0.024)

Notes: This table reports the means of annuity take-up by wording used and by the specified treatments. Rows in gray were not included in the pre-analysis plan. Panel A displays the results for the Benchmark groups; panel B displays the results for the groups in which there is no status quo in the annuity choice; panel C displays the results for the groups with reverse correlation; panel D displays the results for the groups with salient contingencies. All standard errors are clustered at the participant level.

Figure A1: Treatment effects by decision-making sophistication



Notes: This figure shows the treatment effect on annuity take-up by an index for decision-making sophistication, constructed by standardizing the three comprehension proxies and taking their mean. The treatment effects are relative to the High-price No-Status-Quo group. The text below the arrows reports the difference in treatment effects between participants with above- versus below-median values of the sophistication index. The vertical spikes indicate the 95% confidence interval and standard errors are clustered at the participant level.

Table A5: Differences in average effects of salient-contingencies treatments on annuity take-up

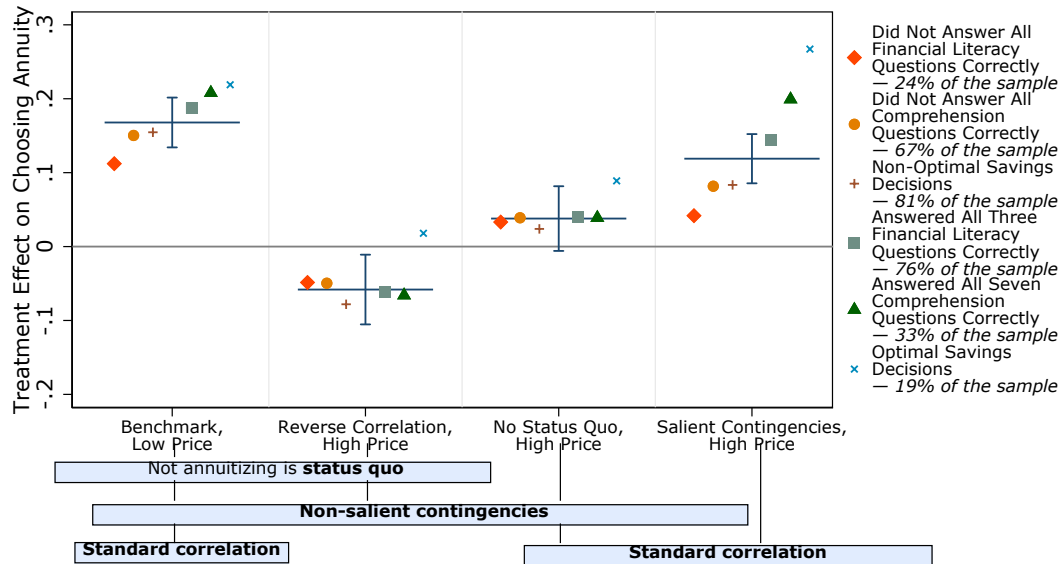
Treatment Group	Reference Group	Number of Observations	Difference in Effects
<b>Panel A. Across all salient-contingencies conditions</b>			
Salient Contingencies II, (I + savings specified)	Salient Contingencies I, (savings first)	1,542	−0.035 (0.020)
Salient Contingencies III, (II + no context)	Salient Contingencies II, (I + savings specified)	1,523	0.097 (0.019)
Salient Contingencies IV, (III + dominance)	Salient Contingencies III, (II + no context)	1,590	−0.002 (0.017)
<b>Panel B. By savings adjustments in “Salient Contingencies III (II + no context)” and “Salient Contingencies IV (III + dominance)”</b>			
Savings not adjusted — Salient Contingencies IV, (III + dominance)	Savings would not be adjusted — Salient Contingencies III, (II + no context)	516	−0.031 (0.026)
Savings adjusted — Salient Contingencies IV, (III + dominance)	Savings would be adjusted — Salient Contingencies III, (II + no context)	1,074	0.014 (0.022)
Savings adjusted, annuity already dominant — Salient Contingencies IV, (III + dominance)	Savings would be adjusted, annuity already dominant — Salient Contingencies III, (II + no context)	729	−0.014 (0.024)
Savings adjusted, annuity not already dominant — Salient Contingencies IV, (III + dominance)	Savings would be adjusted, annuity not already dominant — Salient Contingencies III, (II + no context)	345	0.063 (0.044)

Notes: This table reports the estimates of differences in average treatment effects from a linear probability model of annuity take-up, along with standard errors clustered at the participant level. The difference in treatment effects is estimated as the difference in annuity take-up between the treatment group and the reference group. For participants in the Salient-Contingencies III group who make optimal savings choices, choosing the annuity dominates forgoing the annuity. In Panel B, the groups in rows 4 through 7 are all subsets of Salient Contingencies IV and Salient Contingencies III. For Salient Contingencies IV, the sample descriptions (“savings not adjusted,” “savings adjusted, annuity already dominant,” “savings adjusted, annuity not already dominant”) refer to whether savings was actually adjusted. For Salient Contingencies III, these descriptions refer to how savings would have been adjusted if the adjustment rule in Salient Contingencies IV had been applied to Salient Contingencies III as well. All standard errors are clustered at the participant level.



## D Heterogeneity Analysis

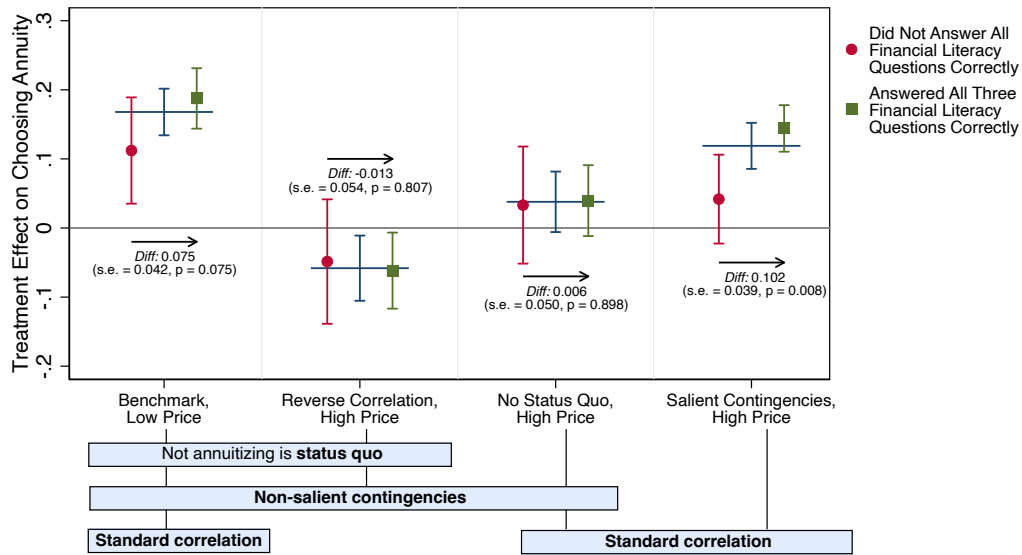
Figure A2: Treatment effects on annuity take-up by financial literacy and comprehension



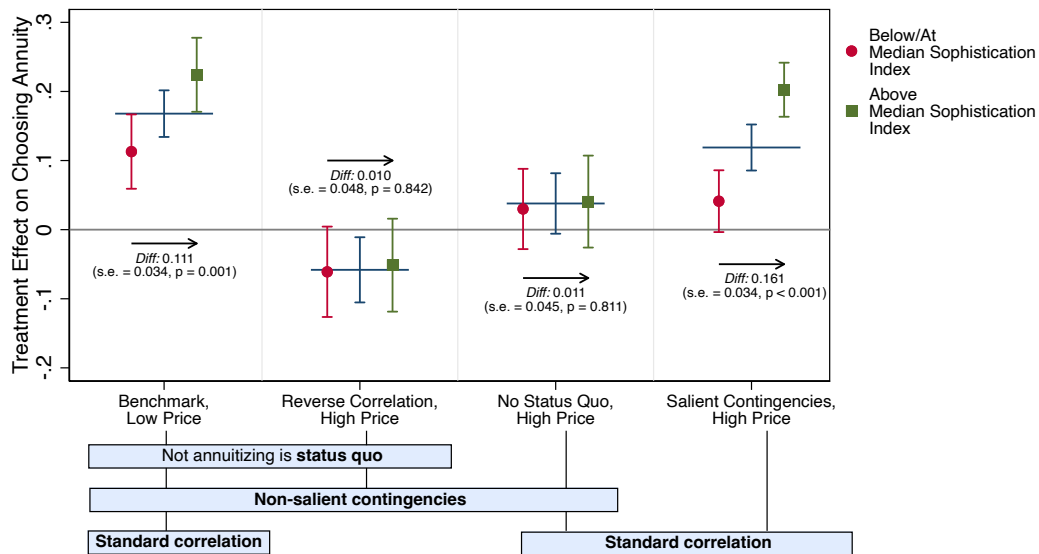
Notes: This figure presents treatment effects, relative to the High-price Benchmark condition, by three proxies for decision-making sophistication.

Figure A3: Heterogeneity of treatment effect on annuity take-up

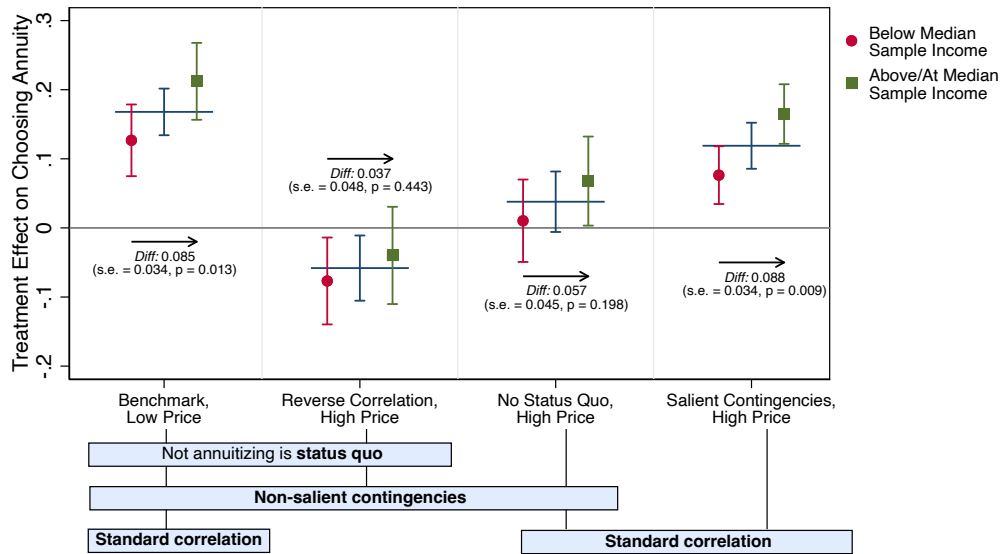
(a) Treatment effect on annuity by accuracy on financial literacy questions



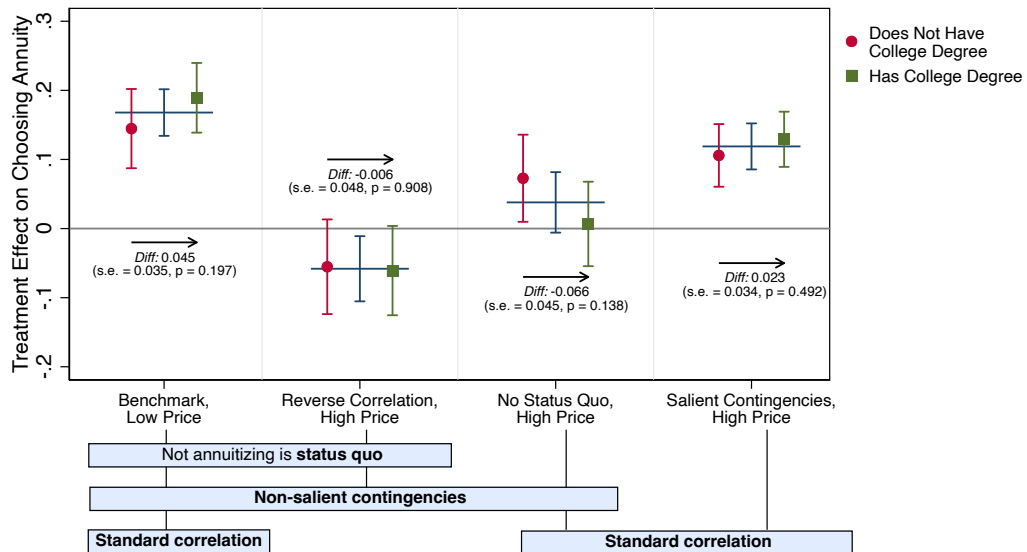
(b) Treatment effects on annuity by comprehension proxy index



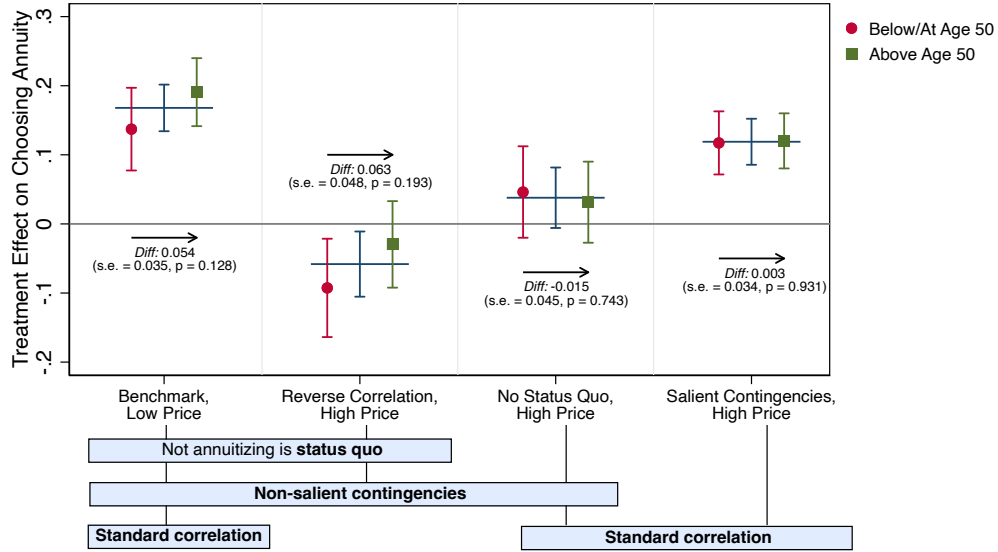
(c) Treatment effect on annuity by income



(d) Treatment effect on annuity by education



(e) Treatment effect on annuity by age



Notes: Panel (a) shows the treatment effects on annuity take-up by whether the participant correctly answered all financial literacy questions in the survey. Panel (b) shows the treatment effects on annuity take-up by a sophistication index, constructed by standardizing the underlying values of the three comprehension proxies (i.e., the fraction of financial literacy questions answered correctly, the fraction of payoff-maximizing savings choices made, and the fraction of comprehension questions answered correctly) and taking their mean. Panel (c) shows the treatment effects on annuity take-up by a binary split across the median income in the sample. Panel (d) shows the treatment effects on annuity take-up by whether the participant has a bachelor's degree. Panel (e) shows the treatment effects on annuity take-up by a binary split across age 50. The text below the black horizontal bars indicates the difference in treatment effect between the green and red spikes. In all panels, the vertical spikes indicate the 95% confidence interval and standard errors are clustered at the participant level.

Table A6: Interaction effects of treatment and demographic characteristics on annuity take-up

Treatment Group	Reference Group	Number of Participants	Effect of treatment on take-up		
			Answered all financial literacy questions correctly (N=2,275)	Did not answer all financial literacy questions correctly (N=763)	Difference
<b>Panel A. Financial Literacy</b>					
No Status Quo	Benchmark, high price	1,572	0.040 (0.026)	0.033 (0.043)	0.006 (0.050)
Salient Contingencies I, (savings first)	No Status Quo	1,530	0.071 (0.024)	0.016 (0.044)	0.055 (0.050)
Salient Contingencies II, (I + savings specified)	No Status Quo	1,279	0.055 (0.024)	-0.065 (0.044)	0.119 (0.050)
Salient Contingencies III/IV, (II + no context, dominance)	No Status Quo	1,823	0.145 (0.020)	0.043 (0.036)	0.101 (0.042)
Reverse Correlation	Benchmark, high price	1,508	-0.062 (0.028)	-0.049 (0.046)	-0.013 (0.054)
Benchmark, low price	Benchmark, high price	822	0.188 (0.019)	0.112 (0.038)	0.075 (0.042)
<b>Panel B. Income</b>					
			Above/at median income (N=1,444)	Below median income (N=1,594)	Difference
No Status Quo	Benchmark, high price	1,572	0.068 (0.033)	0.010 (0.030)	0.057 (0.045)
Salient Contingencies I, (savings first)	No Status Quo	1,530	0.078 (0.030)	0.040 (0.029)	0.037 (0.042)
Salient Contingencies II, (I + savings specified)	No Status Quo	1,279	0.022 (0.031)	0.025 (0.030)	-0.002 (0.043)
Salient Contingencies III/IV, (II + no context, dominance)	No Status Quo	1,823	0.142 (0.025)	0.098 (0.025)	0.044 (0.035)
Reverse Correlation	Benchmark, high price	1,508	-0.040 (0.036)	-0.077 (0.032)	0.037 (0.048)
Benchmark, low price	Benchmark, high price	822	0.212 (0.025)	0.127 (0.024)	0.085 (0.034)

Treatment Group	Reference Group	Number of Participants	Effect of treatment on take-up		
			Has college degree (N=1,623)	Does not have college degree (N=1,415)	Difference
<b>Panel C. College Degree</b>					
No Status Quo	Benchmark, high price	1,572	0.007 (0.031)	0.073 (0.032)	-0.066 (0.045)
Salient Contingencies I, (savings first)	No Status Quo	1,530	0.093 (0.029)	0.018 (0.031)	0.075 (0.042)
Salient Contingencies II, (I + savings specified)	No Status Quo	1,279	0.071 (0.029)	-0.034 (0.032)	0.105 (0.043)
Salient Contingencies III/IV, (II + no context, dominance)	No Status Quo	1,823	0.165 (0.024)	0.069 (0.025)	0.095 (0.035)
Reverse Correlation	Benchmark, high price	1,508	-0.061 (0.033)	-0.055 (0.035)	-0.006 (0.048)
Benchmark, low price	Benchmark, high price	822	0.189 (0.022)	0.145 (0.027)	0.045 (0.035)
			Above/at age 50 (N=1,773)	Below age 50 (N=1,265)	Difference
<b>Panel D. Age</b>					
No Status Quo	Benchmark, high price	1,572	0.033 (0.029)	0.045 (0.034)	-0.012 (0.045)
Salient Contingencies I, (savings first)	No Status Quo	1,530	0.062 (0.028)	0.054 (0.032)	0.008 (0.043)
Salient Contingencies II, (I + savings specified)	No Status Quo	1,279	0.031 (0.028)	0.012 (0.032)	0.019 (0.043)
Salient Contingencies III/IV, (II + no context, dominance)	No Status Quo	1,823	0.129 (0.023)	0.107 (0.027)	0.021 (0.036)
Reverse Correlation	Benchmark, high price	1,508	-0.034 (0.032)	-0.090 (0.037)	0.057 (0.049)
Benchmark, low price	Benchmark, high price	822	0.187 (0.022)	0.141 (0.028)	0.046 (0.035)

Notes: This table reports estimates of the interaction effects of treatment and various demographic characteristics from a linear probability model of annuity take-up. Panel A displays the results for participants who answered all financial literacy questions correctly and for participants who did not answer all financial literacy questions correctly; panel B displays the results for participants above and below the median income within the sample; panel C displays the results for participants with a college degree and participants without a college degree; panel D displays the results for participants above and below age 50. The treatment effect is estimated as the difference in annuity take-up between the treatment group and the reference group. In row 4 of each panel, participants in the Salient-Contingencies III and Salient-Contingencies IV groups are pooled. All standard errors are clustered at the participant level.

Table A7: Joint significance of interaction effects of treatments and demographic characteristics on annuity take-up

Treatment Groups	Number of Participants	$\chi^2$ statistic	p-value
<b>Panel A. Financial Literacy</b>			
All Salient Contingencies (I, II, III/IV)	2,352	8.10	0.044
No Status Quo; All Salient Contingencies (I, II, III/IV); Reverse Correlation	3,038	17.42	0.004
<b>Panel B. Income</b>			
All Salient Contingencies (I, II, III/IV)	2,352	2.77	0.428
No Status Quo; All Salient Contingencies (I, II, III/IV); Reverse Correlation	3,038	10.78	0.056
<b>Panel C. College Degree</b>			
All Salient Contingencies (I, II, III/IV)	2,352	8.31	0.040
No Status Quo; All Salient Contingencies (I, II, III/IV); Reverse Correlation	3,038	8.71	0.121
<b>Panel D. Age</b>			
All Salient Contingencies (I, II, III/IV)	2,352	0.46	0.927
No Status Quo; All Salient Contingencies (I, II, III/IV); Reverse Correlation	3,038	2.38	0.794

Notes: This table reports test statistics and p-values from tests of the joint significance of the interaction effects of the treatments listed in the row and the demographic characteristic listed in the panel heading. In all cases, the Salient-Contingencies treatments III and IV are pooled. Hence, the top row of each panel tests for the joint significance of three treatment effects interacted with the listed demographic characteristic and the bottom row of each panel tests for the joint significance of five treatment effects interacted with the listed demographic characteristic. Specifically, panel (a) displays the results for the interaction effect of the listed treatments and of answering all financial literacy questions correctly; panel (b) displays the results for the interaction effect of the listed treatments and of having an income at or above the sample median; panel (c) displays the results for the interaction effect of the listed treatments and of having a college degree; panel (d) displays the results for the interaction effect of the listed treatments and of being above age 50. All standard errors are clustered at the participant level.

## E Probit Model Estimation

We estimate the following Probit model:

$$Prob(y_{ij} = 1) = \Phi(\beta_0 + \beta_1 Price_j + \beta_2 NoStatusQuo_j + \beta_3 SalContI_j + \beta_4 SalContIII_j), \quad (1)$$

where  $y_{ij} \in \{0, 1\}$  is an indicator that equals 1 if participant  $i$  takes up the annuity in condition  $j$ ,  $\Phi$  is the cumulative distribution function of the standard normal distribution,  $Price_j$  is the price of the annuity in tokens in condition  $j$ ,  $NoStatusQuo_j$  is an indicator variable that equals 1 in the No-Status-Quo and Salient-Contingencies conditions,  $SalContI_j$  is an indicator variable for the Salient-Contingencies I condition, and  $SalContIII_j$  is an indicator variable for the Salient-Contingencies III condition. We compute robust standard errors clustered at the participant level. The sample consists of the following experimental conditions: High-price Benchmark, Low-price Benchmark, No Status Quo, Salient Contingencies I, and Salient Contingencies III.

Appendix Table A8, Column (I) presents the untransformed parameter estimates of the Probit model described by equation (1). With these parameters in hand, we rescale the treatment effects to be in units of equivalent price changes in Column (II). Because the error term follows a standard normal distribution, with variance normalized to 1, we obtain the valuations in tokens by dividing the estimated coefficient in Column (I) of the variable indicated in each row by the price coefficient. Column (II) reports these valuations. The row corresponding to the constant term reports the average baseline valuation  $\tilde{v}_0$  (in tokens) in the benchmark condition, and the other rows report the change in average valuation (in tokens) caused by the experimental treatment corresponding to the variables in each row. Column (III) reports the average valuations obtained in Column (II) as a share of the average baseline valuation in the benchmark condition ( $\tilde{v}_0$ ). We obtain the estimates in Column (III) by dividing each row in Column (II) by the row corresponding to the constant term in Column (II), which reports  $\tilde{v}_0$ .



Table A8: Effect of treatments on annuity valuation

	Untransformed Probit coefficients (I)	Implied average valuation	
		In tokens (II)	In % of baseline valuation ( $\tilde{v}_0$ ) (III)
Price (in tokens)	−0.062 (0.006)		
No Status Quo	0.115 (0.068)	1.9 (1.0)	6.4% (3.7)
Salient Contingencies I	0.198 (0.072)	3.2 (1.2)	11.0% (4.0)
Salient Contingencies III	0.458 (0.076)	7.4 (1.4)	25.4% (4.5)
Constant	1.805 (0.113)	29.1 (1.5)	

Notes: Column (I) reports the untransformed coefficients, along with standard errors clustered at the participant level, from a Probit model of annuity take-up on the annuity price in tokens and indicator variables for treatment conditions. Price is equal to 10 tokens for the low-price annuity and 20 tokens for the high-price annuity. No Status Quo is a binary variable that equals one in the No-Status-Quo condition and in the Salient-Contingencies conditions, and zero in the High- and Low-price Benchmark conditions. The sample consists of the following experimental conditions: High-price Benchmark, Low-price Benchmark, No Status Quo, Salient Contingencies I, and Salient Contingencies III. Column (II) reports the average baseline valuation  $\tilde{v}_0$  (in tokens) in the benchmark condition in the case of the constant term, or the change in average valuation (in tokens) caused by the experimental treatment corresponding to the variables in each row. These measures are obtained by dividing the untransformed coefficient of the variable indicated in each row by the untransformed price coefficient. Column (III) reports the average valuation obtained in column (II) as a share of the average baseline valuation in the benchmark condition,  $\tilde{v}_0$ .

## F Pre-Analysis Appendix

### F.A Overview

The results in the figures of the body of the paper were all pre-specified in the analysis plan, with two exceptions. First, we added a pooled version of the Salient-Contingencies treatments in Figure 2B because this allowed us to convey the main message of the paper in a single figure without overwhelming the reader with the details of the four different versions of the Salient-Contingencies treatments. Second, we focused the heterogeneity analysis in the body of the paper on the type of heterogeneity for which we had the most interesting results: heterogeneity by decision-making sophistication. The analysis plan pre-specified five dimensions of heterogeneity, including financial literacy and optimality of savings decisions, which are both metrics of decision-making sophistication. We supplemented these two pre-specified metrics with one additional metric of decision-making sophistication, namely answering all comprehension questions correctly. The heterogeneity analysis in the body of the paper shows that the pattern of heterogeneity is the same for each of these three metrics of decision-making sophistication. For the estimation of heterogeneity in treatment effects, we pool the three metrics to increase statistical power.

All pre-specified analyses are reported somewhere in the paper, either in its body or in the appendices. The next two subsections summarize the pre-analysis plan and describe where each of the pre-specified analyses is reported.

### F.B Primary analyses

The pre-analysis plan specified nine main experimental groups. These groups are: 1: Benchmark, High Price (called “G0” in the pre-analysis plan); 2: No Status Quo (“G1”); 3: Salient Contingencies I (“G2”); 4: Salient Contingencies II (“G3”); 5: Salient Contingencies III (“G4”); 6: Salient Contingencies IV (“G5”); 7: Reverse Correlation (“G10”); 8: Benchmark, Low Price (“G20”); and 9: Reverse Correlation, Salient Contingencies IV, Low Price (“G35”). Unless explicitly specified otherwise, the annuity is less than actuarially fair (so “high price”) in these nine groups. We pre-specified three sets of primary analyses based on these groups.

First, we specified that we would report the mean annuity take-up in each of these nine main experimental groups, together with the standard errors. This is presented in Figures 2 and 3, and, more comprehensively, in Appendix Table A4.

Second, we pre-specified reporting the average treatment effects of nine comparisons between two experimental groups,  $G_a, G_b$ . The nine treatment effects of interest are defined

by the following pairs of reference group (listed first) and treatment group (listed second): 1. G0 vs. G1; 2. G1 vs. G2; 3. G1 vs. G3; 4. G1 vs. G4; 5. G1 vs. G5; 6. G0 vs. G10; 7. G0, “insurance” wording only, vs. G10; 8. G0 vs. G20; and 9. G0 vs. G35. We specified that we would estimate average treatment effects using the following linear probability model:

$$y_{ij} = \beta_0 + \beta_1 \mathbf{1}_{G_b} + \varepsilon_{ij}, \quad (2)$$

where  $y_{ij} \in \{0, 1\}$  is an indicator that equals 1 if participant  $i$  takes up the annuity in cell  $j \in \{G_a, G_b\}$  and where the sample is limited to these two cells. In this and all other regressions, we compute robust standard errors clustered by participant where appropriate (i.e., where some participants appear in multiple cells). Seven of the nine treatment effects listed above are reported in Figures 2 and 3 in the body of the paper. We did not report the remaining two treatment effects in the body of the paper for the following reasons. First, following a pre-specified test from our analysis plan, we designated treatment effect 6 (“G0 vs. G10”) as the preferred specification for the Reverse-Correlation effect (and reported it in the body of the paper). The non-preferred specification, treatment effect 7 (“G0, “insurance” wording only, vs. G10”) is reported in row 2 of Table A9, but not in the body of the paper. Second, we had included treatment effect 9 (“G0 vs. G35”) in the pre-analysis plan to illustrate ceiling effects. This treatment included everything that we expected to increase annuity take-up. Contrary to our expectations, however, the Reverse-Correlation treatment did not increase annuity take-up and, as a result, the largest take-up did not occur in treatment group G35. Hence, this treatment lost its relevance as an illustration of ceiling effects. We therefore reported it in row 2 of Table A9 rather than in the body of the text.

Third, we pre-specified that we would report differences in the average effects of Salient-Contingencies treatments on annuity take-up, in the entire sample and for select subsamples. These differences in treatment effects are presented in Appendix Table A5.

Table A9: Average treatment effect on annuity take-up

	Treatment group	Reference group	Effect of treatment on take-up
1	Reverse Correlation	Benchmark, high price	−0.058 (0.024)
2	Reverse Correlation	Benchmark, high price, “insurance” wording only	−0.070 (0.032)
3	Reverse Correlation, low price, Salient Contingencies IV	Benchmark, high price	0.140 (0.021)
4	Benchmark, high price, “insurance” wording only	Benchmark, high price, other wording	0.019 (0.033)

Notes: This table reports the estimates of average treatment effects from a linear probability model of annuity take-up, along with standard errors clustered at the participant level. The treatment effect is estimated as the difference in annuity take-up between the treatment group and the reference group. In row 4, either “annuity” or “Social Security” wording was used in the reference group.

## F.C Secondary analyses

The first set of secondary results comprised replicating the primary analyses on a subsample of participants who made optimal savings decisions in both of the following two cases: (i) no annuity and (ii) high-priced annuity. The mean annuity take-up in each of the nine main experimental groups for this subsample is presented in Figure 4 (Panel A) in body of the paper or in Appendix Table A10 below.

Table A10: Mean annuity take-up - Subsample with optimal savings choices

Group	Annuity take-up mean
1 Benchmark, high price	0.651 (0.037)
2 No Status Quo	0.740 (0.040)
3 Salient Contingencies I	0.894 (0.026)
4 Salient Contingencies II	0.921 (0.023)
5 Salient Contingencies III and IV	0.929 (0.015)
6 Reverse Correlation	0.669 (0.039)
7 Benchmark, low price	0.870 (0.026)
8 Reverse-Correlation Salient Contingencies IV, low price	0.939 (0.020)

Notes: This table reports the mean annuity take-up rate and the share of participants who made optimal savings choices in the no annuity and high-price annuity cases for different treatment groups, along with standard errors. The sample for estimating take-up means is restricted to participants with optimal savings choices in the no annuity and high-price annuity cases. For participants in the Salient-Contingencies III group with optimal savings choices, choosing the annuity dominates forgoing the annuity, so we pre-specified that this group should be pooled with the Salient-Contingencies IV group.

The corresponding treatment effects in the subsample with optimal savings choices can be found in Appendix Figure A2 or in Appendix Table A11 below. Finally, the differences in the average effects of Salient-Contingencies treatments on annuity take-up for this subsample are presented in Appendix Table A12 below.

Table A11: Average treatment effect on annuity take-up - Subsample with optimal savings choices

Treatment group	Reference group	Effect of treatment on take-up
1 No Status Quo	Benchmark, high price	0.089 (0.054)
2 Salient Contingencies I	No Status Quo	0.154 (0.047)
3 Salient Contingencies II	No Status Quo	0.181 (0.045)
4 Salient Contingencies III and IV	No Status Quo	0.189 (0.042)
5 Reverse Correlation	Benchmark, high price	0.018 (0.053)
6 Reverse Correlation	Benchmark, high price, “insurance” wording only	0.083 (0.076)
7 Benchmark, low price	Benchmark, high price	0.219 (0.040)
8 Reverse-Correlation Salient Contingencies IV, low price	Benchmark, high price	0.288 (0.042)
9 Benchmark, high price, “insurance” wording only	Benchmark, high price, other wording	−0.098 (0.079)

Notes: This table reports the estimates of average treatment effects from a linear probability model of annuity take-up, along with standard errors clustered at the participant level. The treatment effect is estimated as the difference in annuity take-up between the treatment group and the reference group. In row 9, either “annuity” or “Social Security” wording was used in the reference group. The sample is restricted to participants with optimal savings choices in the no annuity and high-price annuity cases. For participants in the Salient-Contingencies III group who made optimal savings choices, choosing the annuity dominates forgoing the annuity, so we pre-specified that this group should be pooled with the Salient-Contingencies IV group.

Table A12: Differences in average effects of treatment on annuity take-up - Subsample with optimal savings choices

	Treatment group	Reference group	Difference in effects
1	Salient Contingencies II	Salient Contingencies I	0.027 (0.035)
2	Salient Contingencies III and IV	Salient Contingencies II	0.008 (0.027)

Notes: This table reports the estimates of differences in average treatment effects from a linear probability model of annuity take-up, along with standard errors clustered at the participant level. The difference in treatment effects is estimated as the difference in annuity take-up between the treatment group and the reference group. The sample is restricted to participants who made optimal savings choices in the no annuity and high-price annuity cases. For participants in the Salient-Contingencies III group who made optimal savings choices, choosing the annuity dominates forgoing the annuity, so we pre-specified that this group should be pooled with the Salient-Contingencies IV group.

Second, we pre-specified the analysis of the interaction of six selected treatment effects with four dummy variables for: answering all three financial literacy questions correctly, having an income above the median in our sample, having a college degree, and being older than 50 years. To test for the interaction of a particular treatment with a particular demographic covariate  $d$ , we run the regression

$$y_{ij} = \beta_0 + \beta_1 \mathbf{1}_{G_b} + \beta_2 d + \beta_3 \mathbf{1}_{G_b} \cdot d + \varepsilon_{ij} \quad (3)$$

with robust standard errors clustered by participant where appropriate. The coefficient  $\beta_3$  corresponds to the interaction effect of interest. Appendix Table A6 presents the interaction effects of the 4 demographic dummy variables with these six pre-specified treatment effects.

Because the power of the interaction-effect tests above may be limited, we pre-specified that we would also run tests for interaction effects using specifications that pool several treatment effects. We run four types of tests for each of the four demographic covariates. In the first set of tests, we test for the joint significance of the interaction of one of the four demographic covariates with five pre-specified treatment effects. In the second set of tests, we test for the joint significance of the interaction of one of the four demographic covariates with three Salient-Contingencies treatment effects. These two sets of tests can be found in Appendix Table A7. We also test whether there is heterogeneity with respect to  $d$  in which Salient-Contingencies treatments elicit the strongest response. In the third set of tests we compare the treatment effect of Salient Contingencies III and IV (pooled) relative to No

Status Quo and Salient Contingencies I (pooled) and interact this treatment effect with one of the four demographics. In the fourth set of tests, we compare the treatment effect of No Status Quo and Salient Contingencies IV (pooled) relative to Salient Contingencies I and II (pooled) and interact this treatment effect with one of the four demographics. These two sets of tests are presented in Appendix Table A13 below.



Table A13: Heterogeneity of interaction effects of pooled treatments and demographic characteristics in annuity take-up

Pooled Treatment Groups	Pooled Reference Groups	Effect of pooled treatments on take-up		
		Answered all financial literacy questions correctly	Did not answer all financial literacy questions correctly	Difference
<b>Panel A. Financial Literacy</b>				
Salient Contingencies III and IV	No Status Quo and Salient Contingencies I	0.107 (0.015)	0.035 (0.029)	0.072 (0.033)
Salient Contingencies I and II	No Status Quo and Salient Contingencies IV	-0.016 (0.016)	-0.040 (0.030)	0.025 (0.034)
		<b>Above/at median income</b>	<b>Below median income</b>	<b>Difference</b>
<b>Panel B. Income</b>				
Salient Contingencies III and IV	No Status Quo and Salient Contingencies I	0.104 (0.019)	0.078 (0.019)	0.026 (0.027)
Salient Contingencies I and II	No Status Quo and Salient Contingencies IV	-0.028 (0.020)	-0.015 (0.020)	-0.013 (0.028)
		<b>Has college degree</b>	<b>Does not have college degree</b>	<b>Difference</b>
<b>Panel C. College Degree</b>				
Salient Contingencies III and IV	No Status Quo and Salient Contingencies I	0.116 (0.018)	0.061 (0.020)	0.055 (0.027)
Salient Contingencies I and II	No Status Quo and Salient Contingencies IV	-0.009 (0.019)	-0.038 (0.022)	0.029 (0.029)
		<b>Above/at age 50</b>	<b>Below age 50</b>	<b>Difference</b>
<b>Panel D. Age</b>				
Salient Contingencies III and IV	No Status Quo and Salient Contingencies I	0.097 (0.018)	0.080 (0.021)	0.016 (0.027)
Salient Contingencies I and II	No Status Quo and Salient Contingencies IV	-0.023 (0.019)	-0.019 (0.022)	-0.004 (0.029)

Notes: This table reports estimates of the interaction effects of treatment and financial literacy from a linear probability model of annuity take-up, along with standard errors clustered at the participant level. The treatment effect is estimated as the difference in annuity take-up between the pooled treatment groups and the pooled reference groups.