Complexity, Financial Decision Making, and Consequence Messaging

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Today's talk is based on two papers, with a common theme

- People don't understand annuities, because they are complex
- We show that by manipulating complexity in how annuities are described
  - We can improve decision making with respect to annuitization at least somewhat by "consequence messaging"
  - We also investigate what mode of messaging may work best.

The first paper

Behavioral Impediments to Valuing Annuities: Evidence on the Effects of Complexity and Choice Bracketing

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Motivation

- Longstanding question: Annuity Puzzle
  - Standard models predict most/all wealth should be annuitized. E.g., Yaari (1965), Davidoff, Brown, Diamond (2005)
  - Actual annuity holdings are much lower than standard models predict. E.g., less than 5% maximize the Social Security annuity by deferring claiming until age 70
- What gives? Are the models wrong or do people make mistakes? (Or both?)
- Important for policy
  - Should Social Security continue to be paid as an annuity?
  - Pension rules on cashing out vs. annuitization
  - Tax treatment of or incentives for annuities

Are the models wrong and/or do people make mistakes?

- More sophisticated/complex models can rationalize low annuity demand
  - Combine bequest motive with precautionary savings motive (for long-term care expenses and public care aversion). E.g. Ameriks, Caplin, Laufer, Van Nieuwerburgh (2011) or Lockwood (2012).
  - Stochastic mortality risk and correlated uninsured health care costs (Reichling and Smetters, 2015).

Are the models wrong and/or do people make mistakes?

- Also evidence of deviations from rational behavior:
  - Framing effects in hypothetical choice settings or in the lab (Brown, Kling, Mullainathan, and Wrobel, 2008, 2013; Beshears, Choi, Laibson, Madrian, and Zeldes, 2014; Brown, Kapteyn, and Mitchell, 2016; and Agnew, Anderson, Gerlach, and Szykman, 2008)
  - Divergent valuation for sell and buy price of a marginal annuity (Brown, Kapteyn, Luttmer, and Mitchell, 2017)
  - Defaults seem to matter in actual choices of employees in 10 Swiss companies, of which one with a lump-sum default (Bütler and Teppa, 2007)
  - Patterns in observed data that are suggestive of deviations from rational decision making (Hurd and Panis, 2006; Chalmers and Reuter, 2012; Previtero, 2014; and Fitzpatrick, 2015).
  - Arbitrage arguments based on Soc. Sec. claiming decisions

Where this paper fits in

- Get causal evidence on some of the *mechanisms* leading to deviations from rational decision making
- Get evidence on an *intervention* to reduce the deviation from rational decision making.

Approach

- Survey experiment on 4,000 adult respondents who give advice to a person in a vignette on annuity choices
- Have a measure of deviations from rational decision making ("*sell-buy spread")*
- Two main experimental interventions
  - Discouragement of "narrow choice bracketing" using a "consequence message"
  - Increase the complexity of the annuity choice
- Examine impact of the interventions on deviations from rational decision making

Findings and contributions

1. A more complex annuity choice increases the deviation from rational decision making
   - First causal evidence of complexity on deviations from rationality in an annuity setting
   - Related findings:
     - Brown, Kapteyn, Luttmer, and Mitchell (2017) found strong correlational evidence that higher cognition reduces deviations from rational decision making
     - Complexity reduces the quality of decision making in other contexts. E.g., Abeler and Jäger, 2015; Carvalho and Silverman, 2017; Besedeš, Deck, Sarangi, and Shor, 2012)
   - Policy implications: little scope for direct interventions because annuity choices are largely inherently complex

Findings and contributions, cont'd

2. Narrow choice bracketing contributes to deviations from rational decision making
   - First causal evidence of choice bracketing on deviations from rationality in annuity setting
   - Related findings:
     - Brown et al. (2008, 2013) and Beshears et al. (2014) also found that narrow choice bracketing affects annuity choices, but not whether it increased or decreased the rationality of the choice
     - Fits with causal evidence from other contexts (Bertrand and Morse, 2014, on payday loans; Enke, 2017, on beliefs).
   - Policy implications: interventions that encourage broad decision frames are possible and would improve decision making

Outline

- Introduction (done)
- Survey design
- Sell-Buy spread, descriptive statistics and interpretation
- Effects of experimental interventions
  - Complexity
  - Consequence message (to reduce narrow choice bracketing)
  - Secondary interventions
- Further results
  - Heterogeneity
  - Robustness
- Conclusion

Survey design

- Understanding America Study (UAS): online panel of adult Americans recruited via address-based sampling
- Survey fielded June-October 2016
- Average duration 14 minutes. Paid $10 for completion
- 5,521 panelists invited, 83% responded to invitation, and of those 99% completed the survey
- Rich dataset of cognition and demographic variables appended from other UAS surveys. Match rate 90%
- Final sample: 4,060 observations
- Sample broadly representative of adult US residents

Table 1: Summary Statistics and Comparison to the CPS

	(1) Understanding America Survey: Ages 18+	(2) Current Population Survey: Ages 18+	(3)
Variable:	Mean	Mean	Difference
Age:18-34	0.223	0.300	-0.077
Age:35-49	0.296	0.248	0.048
Age:50-64	0.317	0.258	0.060
Age:65+	0.164	0.194	-0.030
Female	0.574	0.516	0.058
Married	0.597	0.527	0.070
Nonhispanic white	0.755	0.644	0.112
Nonhispanic black	0.081	0.118	-0.037
Nonhispanic other	0.078	0.080	-0.002
Hispanic	0.085	0.158	-0.072
High school dropout	0.053	0.117	-0.064
High school education	0.193	0.290	-0.096
Some college	0.388	0.286	0.102
Bachelor's degree	0.218	0.195	0.023
Graduate degree	0.148	0.112	0.036
Household Income: Less than 25k	0.166	0.161	0.005
Household Income: 25k-50k	0.176	0.205	-0.029
Household Income: 50k-75k	0.165	0.173	-0.008
Household Income: 75k-100k	0.130	0.138	-0.008
Household Income: Above 100k	0.364	0.324	0.040
Household size of one	0.201	0.145	0.057
Household size of two	0.390	0.342	0.048
Household size of three	0.174	0.191	-0.017
Household size of four or more	0.235	0.322	-0.087
Any kids	0.328	0.378	-0.050
Observations	4,060	134,420	

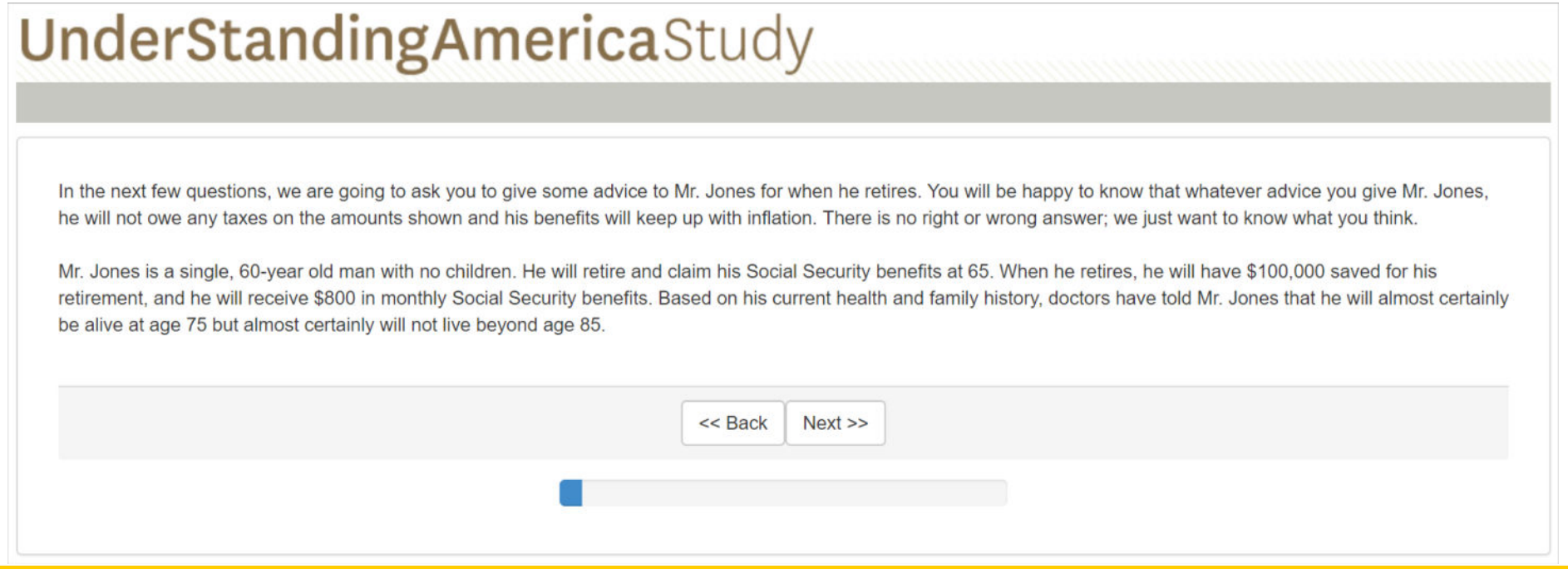
Vignettes on Social Security benefits

- Respondents give advice to “vignette person”
- Drawback: it is advice in a hypothetical setting
- Benefits:
  - Can experimentally vary the complexity of the annuity decision
  - Can elicit both the sell and buy price for each respondent
  - Situation is fully controlled (no unobserved person-specific financial or other circumstances that affect annuity value)
  - Can rule out liquidity constraints
- Use Social Security benefits as the annuity
  - It is a real annuity (no inflation risk) that people are familiar with

Introducing the vignette

Information about the vignette person (e.g., “Mr. Jones”)

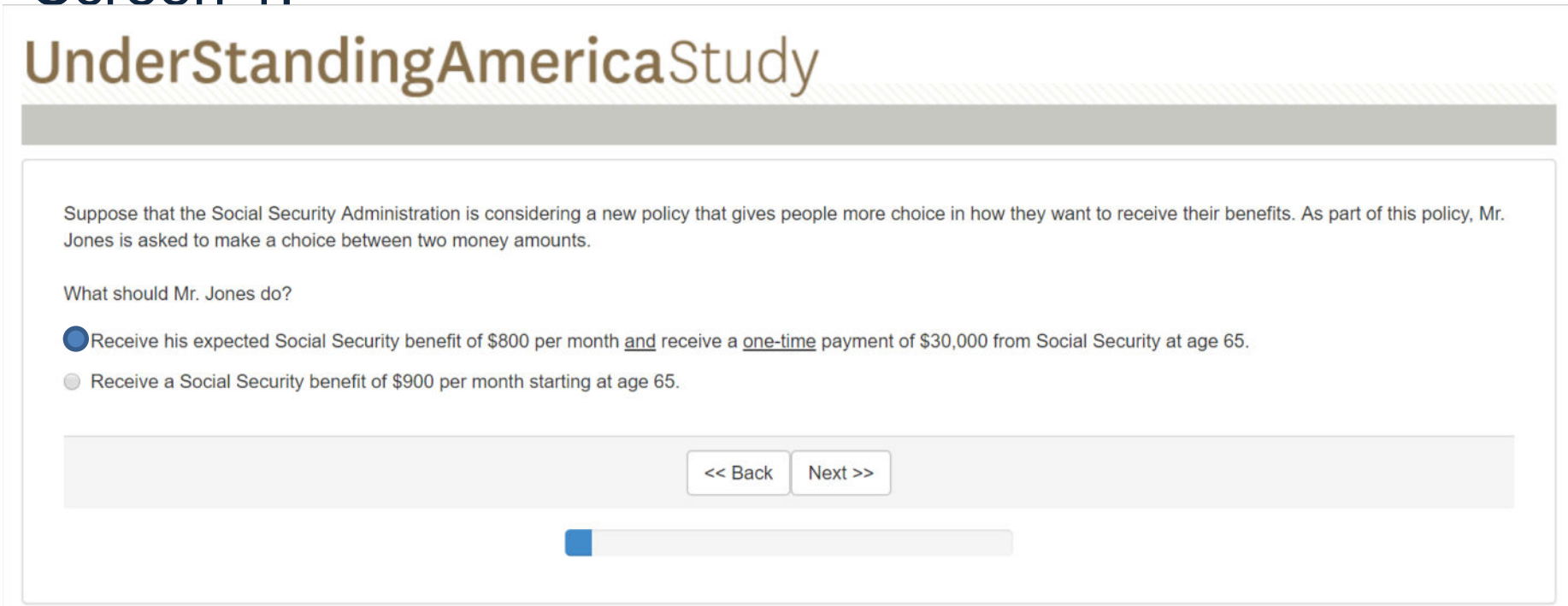
- 60 years old, single, no children
- Will retire and claim benefits at age 65
- Expected SS benefits of $800; will have $100,000 saved by age 65
- Doctors have told him that he will “almost certainly be alive at age 75” but “almost certainly not live beyond age 85”



Giving advice on selling SS annuity

Ask respondent to give advice to Mr. Jones on whether to sell a SS benefit increase of $100/month for $30,000.

Screen 1:

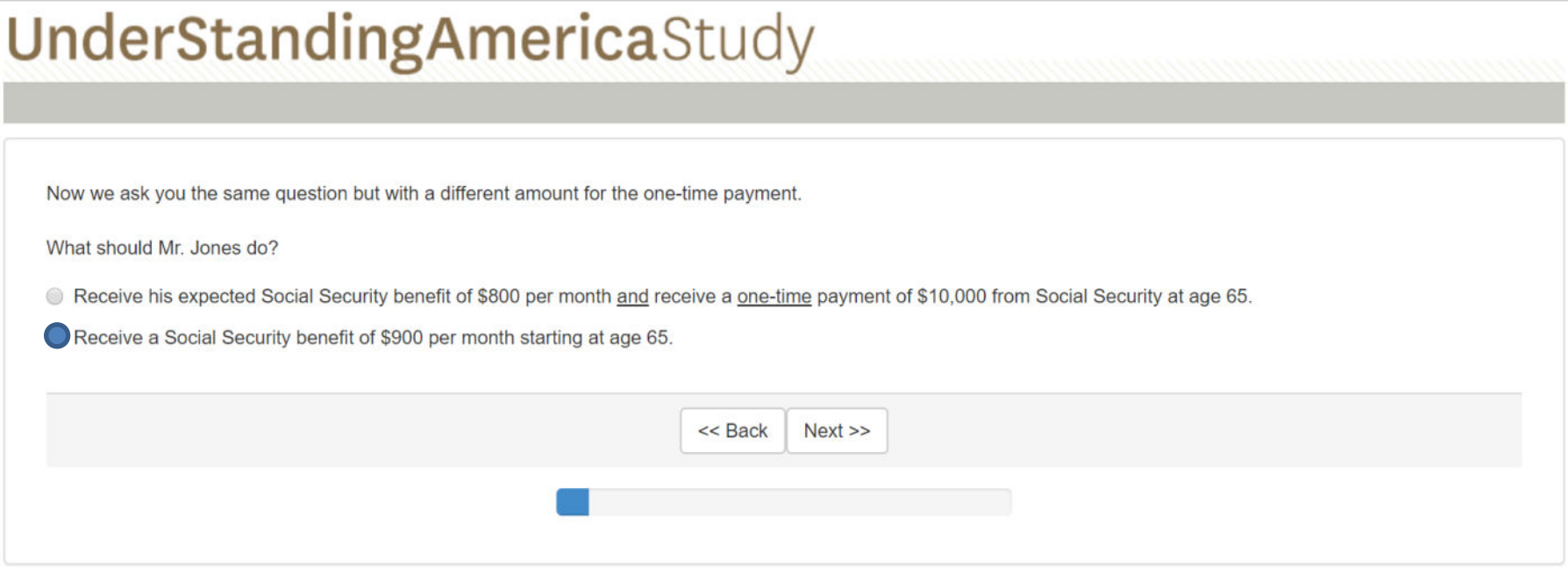


Giving advice on selling SS annuity

Advised to sell for $30,000 → Sell valuation < $30,000

Next, try a lower sell price: $10,000

Screen 2:

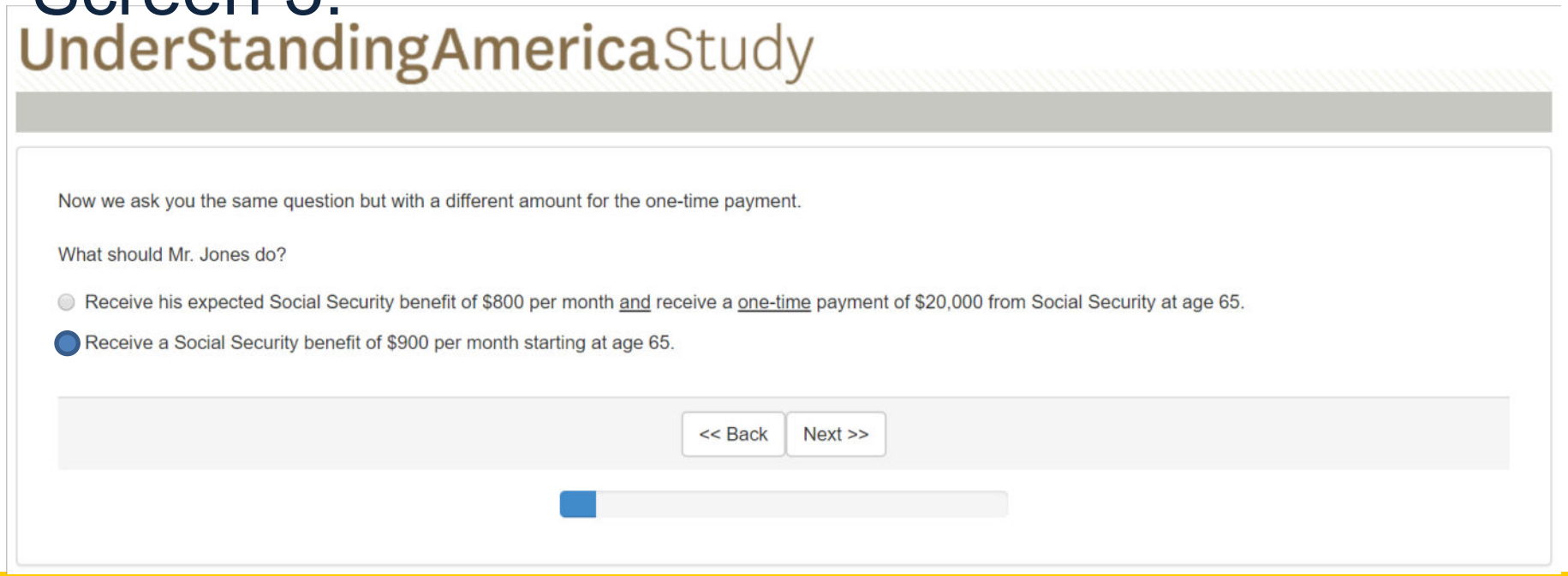


Giving advice on selling SS annuity

Advised not to sell for $10,000 → $10k < valuation < $30k

Next, try a higher sell price: $20,000

Screen 3:



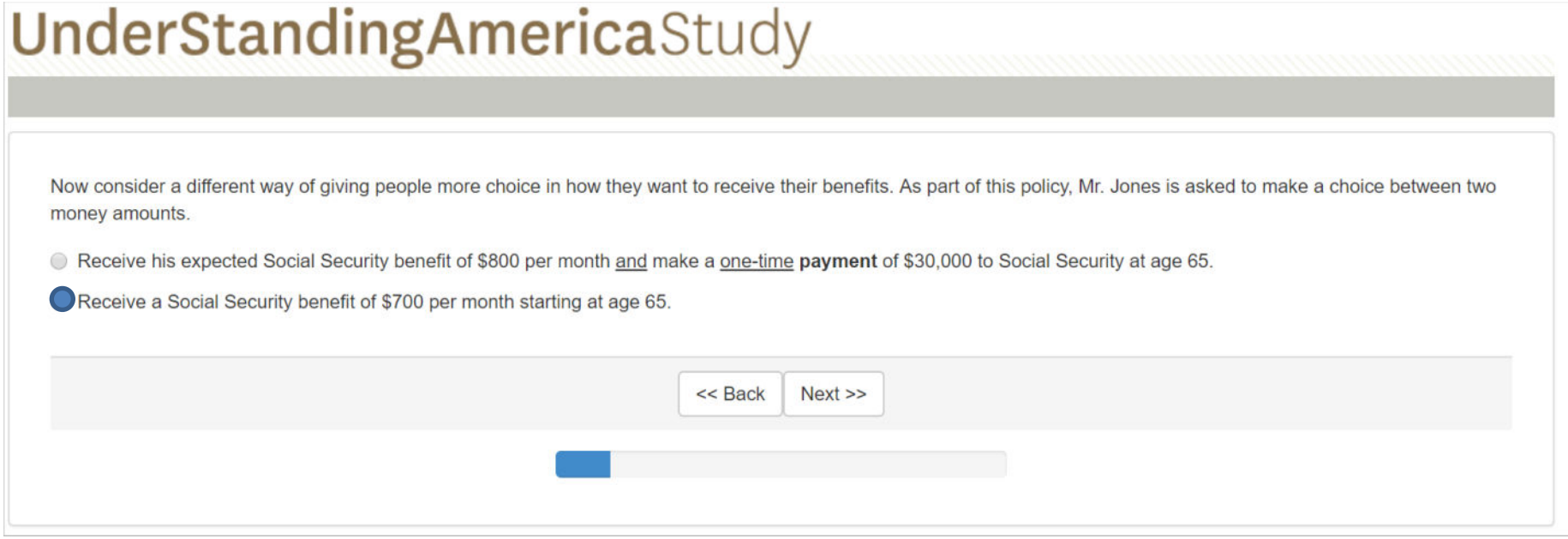
Continue until 5 choices are made

- This puts sell valuation in one of 32 (=2^5) bins
- The starting value was randomized between $10k, $20k, and $30k to test for anchoring
- To make sure details where not consequential, we randomize:
  - Name: Smith or Jones
  - Gender: Mr. or Mrs.
  - The monthly SS benefits: $800, $1200, $1600, $2000
- Ask 5 similar questions to get a buy valuation
- Randomize whether sell or buy valuation is asked first

Giving advice on buying SS annuity

Advise Mr. Jones on whether to buy a SS benefit increase of $100/month for $30,000.

Screen 1:



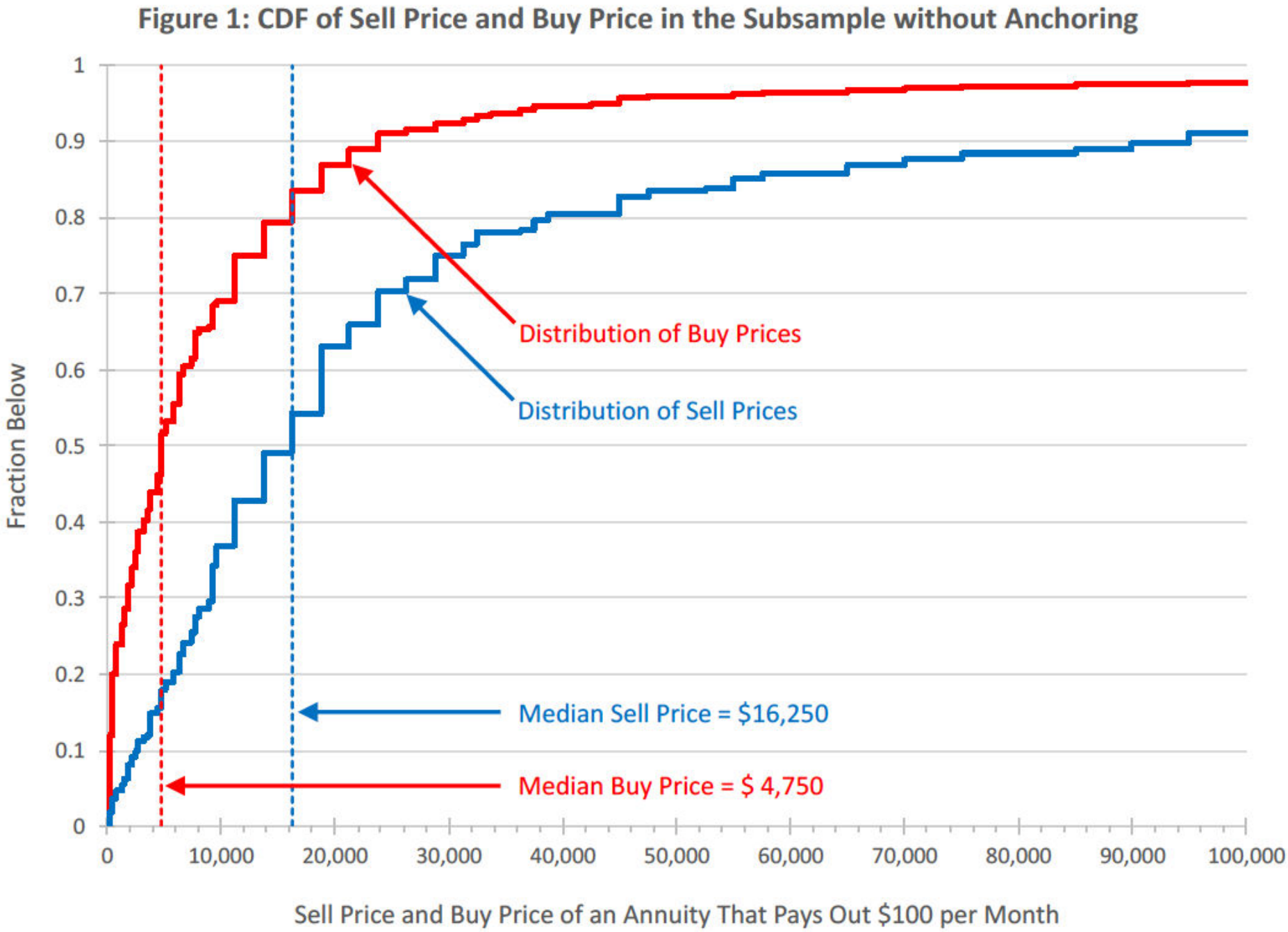


Figure 1: CDF of Sell Price and Buy Price in the Subsample without Anchoring
Fraction Below
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
90,000
100,000
Distribution of Buy Prices
Distribution of Sell Prices
Median Sell Price = $16,250
Median Buy Price = $ 4,750
Sell Price and Buy Price of an Annuity That Pays Out $100 per Month

Huge Sell-Buy Spread. Why?

- Standard rational preferences imply that valuation for *marginal* increase or decrease is the same …
- but the median sell valuation is 4 times greater
  - Not due to status quo bias: status quo of $800 in SS benefits without any one-time payment wasn't a choice
  - Not due to declining demand for annuities (i.e., the fact that $100 is not exactly marginal)
    - Buy value: value of forgoing a cut from $800 to $700
    - Sell value: value of forgoing an increase from $800 to $900
  - Not due to policy risk: same effect on buy and sell value
  - Not due to advising in a vignette: similar finding in Brown et al. 2017 on buy and sell value for an annuity for oneself

One explanation for Sell-Buy Spread: Reluctance to trade asset that is difficult to value

- An explanation from Brown et al. (2017):
  - People rely on the heuristic to be reluctant to trade something they find difficult to value
  - The heuristic protects against being taken advantage off
  - Reluctance means: buy only at very low price, and sell only at very high price
- We replicate supporting evidence from Brown et al.:
  - The sell-buy spread is higher for respondents with lower cognitive ability
  - Sell values are negatively correlated with buy values (due to variation across people in ability to value the annuity)

Key outcome measure: Sell-Buy Spread

- For marginal change in SS: any difference between buy and sell price is a deviation from rationality
- Define Spread as absolute difference between log sell value and log buy value (following Brown et al. 2017)
- 90% have a buy value that differs from their sell value
  (of which 63 ppt have greater sell value than buy value)

Table 3: Summary Stats on the Sell Price, Buy Price, and Spread

	(4) Entire Sample	
	Mean	Std. Dev.
Sell value (log)	9.68	1.76
Buy value (log)	8.67	2.12
Sell-Buy Spread	2.21	2.13
N	4,060	

Experimental design

Two main treatments (orthogonal):

1. Complexity treatment
   - Change vignette to make evaluating the annuity harder by:
     (i) giving a wider range of age of death, or
     (ii) presenting irrelevant information
2. Consequence message (to reduce narrow choice bracketing)
   - *Before* giving advice on selling or buying annuities, we induce the respondent to think about how to spend down wealth during retirement
   - Use a vignette with a *different* name and gender for this

Complexity treatments:

- No added complexity

  "Based on his current health and family history, doctors have told Mr. Jones that he will almost certainly be alive at age 75 but almost certainly will not live beyond age 85."

- Complexity: Wide age range

  "Based on his current health and family history, doctors have told Mr. Jones that he has an 80% chance of being alive at age 70, a 50% chance of being alive at age 80, a 20% chance of being alive at age 90, and a 10% chance of being alive at age 95."

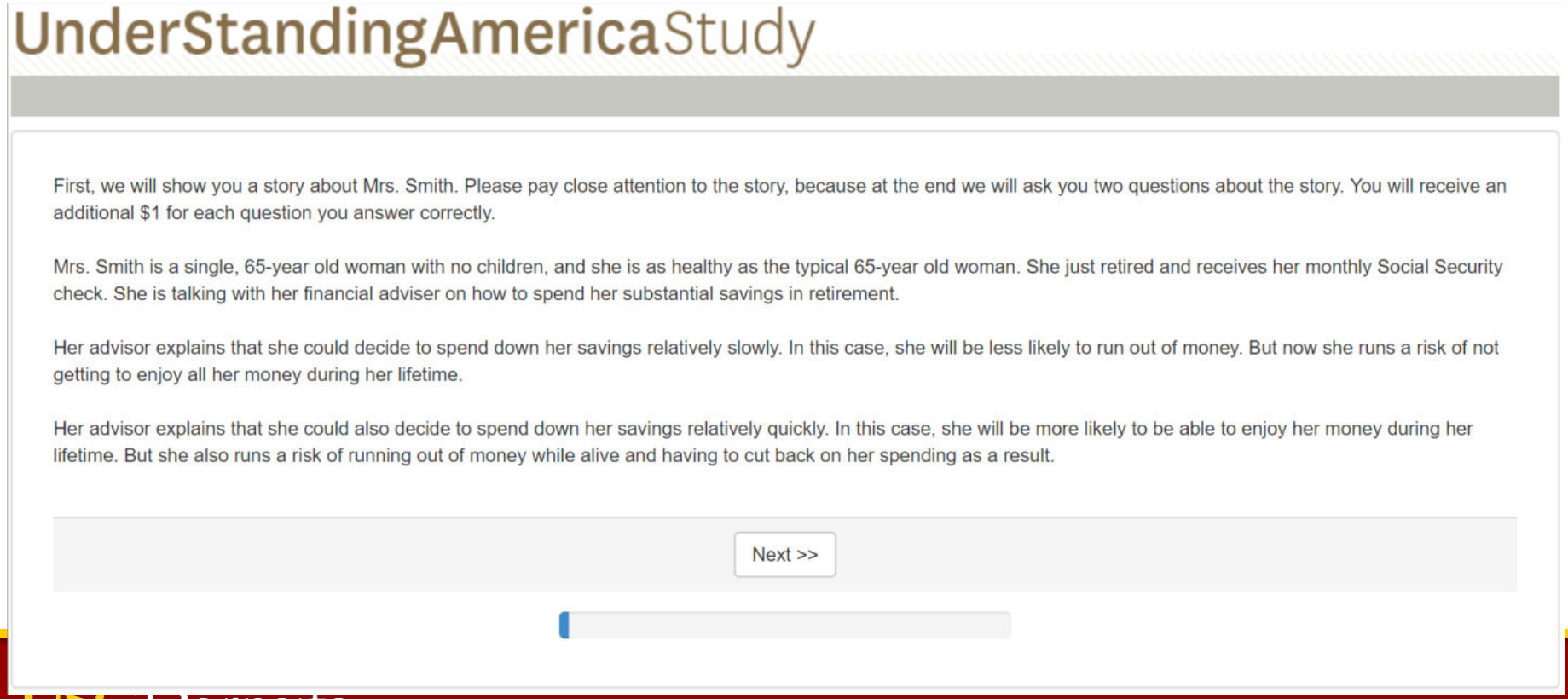
- Complexity: Added information

  "Social Security rules state that you need at least 40 credits, or 10 years of work, to qualify for Social Security – and Mr. Jones qualifies since he has worked for 30 years. Since Mr. Jones was born in 1956, his full retirement age is 66 years and 4 months, but he is eligible to start claiming starting at 62. […] Based on his current health and family history, doctors have told Mr. Jones that he will almost certainly be alive at age 75 but almost certainly will not live beyond age 85."

Consequence message, part 1

Advisor to a vignette person explains consequences of:

- spending down “savings relatively slowly” (risk of not enjoying the money) versus
- spending down “savings relatively quickly” (risk of running out of money)



Consequence message, part 2

Ask about what the adviser just told. (No back button!)

Two correct answers: 63%; One correct answer: 27%

UnderStandingAmericaStudy

Remember, you will earn an extra $1 for each question you answer correctly on this page.

The financial advisor tells Mrs. Smith that spending down her savings more quickly:

- Increases the risk that she does not get to enjoy all of her money during her lifetime.
- Decreases the risk that she runs out of money during her lifetime.
- Increases the risk that she runs out of money during her lifetime.
- None of the above.

The financial advisor tells Mrs. Smith that spending down her savings more slowly:

- Increases the risk that she runs out of money during her lifetime.
- Decreases the risk that she does not get to enjoy all of her money during her lifetime.
- Increases the risk that she does not get to enjoy all of her money during her lifetime.
- None of the above.

Next >>

Consequence message, part 3

We ask the respondent to give advice to the vignette person about how quickly to withdraw her savings. We do so to get the respondent to think about the asset decumulation problem.

We tell the respondent that “there is no right or wrong answer.”

UnderStandingAmericaStudy

Now we are going to switch to a different type of question. Instead of asking you about facts, we are going to ask your advice about what decisions Mrs. Smith should make. Unlike the previous questions, there is no right or wrong answer; we just want to know what you think.

Recall Mrs. Smith, the retired, single, 65-year old woman with no children. She is as healthy as the typical 65-year old woman.

How quickly should she spend her savings?

- Spend her savings by age 70. She can spend a large amount each year, but she will have to cut back if she lives beyond 70. If she dies before 70, she will not have enjoyed all of her savings.
- Spend her savings by age 80. She can spend a moderate amount each year, but she will have to cut back if she lives beyond 80. If she dies before 80, she will not have enjoyed all of her savings.
- Spend her savings by age 90. She can spend a modest amount each year, but she will have to cut back if she lives beyond 90. If she dies before 90, she will not have enjoyed all of her savings.
- Spend her savings by age 100. She can spend a small amount each year, and she will have to cut back if she lives beyond 100. If she dies before 100, she will not have enjoyed all of her savings.

Next >>

Baseline estimates of treatments

Table 4: Treatment Effects on the Sell-Buy Spread

	(1)	
Explanatory variables:	Sell-Buy Spread	
Complexity treatment	0.131**	(0.065)
Consequence message treatment	-0.141**	(0.062)
Cognition index	-0.788***	(0.043)
Sell question first	0.166***	(0.062)
P-value on lump-sum starting values	0.623	
P-value on lump-sum shown first	0.633	
P-value on SS benefit amounts	0.249	
P-value on vignette names	0.375	
Demographic controls	Yes	
R^2	0.157	
N	4,060	

Narrow choice bracketing

- Annuity payouts are uncertain
  - If viewed in isolation (narrow choice bracketing): feels like a *"risky"* product because it has an uncertain payout
  - If viewed jointly with the problem of how to draw down assets during retirement: the uncertainty of the payout helps with consumption smoothing (because the payout is correlated with longevity) → feels like a "*safe*" product
- The consequence message induces respondents to think about annuities jointly with the asset draw down problem
- Consistent with research by Brown et al. (2008, 2013) and Beshears et al. (2014):
  - lower demand for annuities when they are described using investment terms (in which case annuities feel risky) than in terms of consumption (in which case the uncertain payout serves as insurance)

Effects on buy valuations and sell valuations separately

Table 4: Treatment Effects on the Sell-Buy Spread and its Components

	(1)		(2)		(3)	
Explanatory variables:	Sell-Buy Spread		Sell price (log)		Buy price (log)	
Complexity treatment	0.131**	(0.065)	0.050	(0.057)	-0.137**	(0.068)
Consequence message treatment	-0.141**	(0.062)	0.011	(0.055)	0.133**	(0.065)
Cognition index	-0.788***	(0.043)	-0.188***	(0.038)	0.098**	(0.046)
Sell question first	0.166***	(0.062)	-0.043	(0.055)	0.777***	(0.065)
P-value on lump-sum starting values	0.623		0.000		0.000	
P-value on lump-sum shown first	0.633		0.425		0.316	
P-value on SS benefit amounts	0.249		0.363		0.000	
P-value on vignette names	0.375		0.552		0.033	
Demographic controls	Yes		Yes		Yes	
R^2	0.157		0.035		0.067	
N	4,060		4,060		4,060	

Similar reaction to two types of complexity

Table A3: Effect Split out by Type of Complexity Treatment

Dependent Variable: Sell-Buy Spread	(1)	
Explanatory variables:	Sell-Buy Spread	
Complexity treatment: Wide Age Range	0.149*	(0.076)
Complexity treatment: Added Information	0.114	(0.075)
Consequence message treatment	-0.140**	(0.062)
Cognition index	-0.788***	(0.043)
Sell question first	0.165***	(0.062)
P-value on lump-sum starting values	0.624	
P-value on lump-sum shown first	0.623	
P-value on SS benefit amounts	0.248	
P-value on vignette names	0.374	
Demographic controls	Yes	
P-value that coefficients on both complexity treatments are equal	**0.646**	
R^2	0.157	
N	4,060	

No significant differences in treatment effects by subgroup

Table 5: Heterogeneity in Treatment Effects, part 1

Dependent Variable: Sell-Buy Spread	(1) Complexity Treatment		(2) Consequence Message Treatment			
Specification:	Coeff.	(S.E.) [p-value]	Coeff.	(S.E.) [p-value]	R^2	N
(1) By Consequence Message					0.1569	4,060
No consequence message	0.185**	(0.094)				[1,998]
Consequence message	0.078	(0.089)				[2,062]
P-value on test of equal coefficients		[0.408]				
(2) By Complexity Treatment					0.1569	4,060
No complexity treatment			-0.071	(0.104)		[1,409]
Complexity treatment			-0.178**	(0.077)		[2,651]
P-value on test of equal coefficients				[0.408]		

No significant differences in treatment effects by subgroup

Table 5: Heterogeneity in Treatment Effects, part 2

Dependent Variable: Sell-Buy Spread	(1) Complexity Treatment		(2) Consequence Message Treatment			
Specification:	Coeff.	(S.E.) [p-value]	Coeff.	(S.E.) [p-value]	R^2	N
(3) By Cognition					0.1574	4,060
Below median cognition index	0.132	(0.103)	-0.167*	(0.099)		[2,030]
Above median cognition index	0.133*	(0.077)	-0.117	(0.074)		[2,030]
P-value on test of equal coefficients		[0.988]		[0.682]		
(4) By Gender					0.1568	4,060
Female	0.126	(0.089)	-0.152*	(0.086)		[1,729]
Male	0.139	(0.093)	-0.125	(0.088)		[2,331]
P-value on test of equal coefficients		[0.917]		[0.826]		

No significant differences in treatment effects by subgroup

Table 5: Heterogeneity in Treatment Effects, part 3

Dependent Variable: Sell-Buy Spread	(1) Complexity Treatment		(2) Consequence Message Treatment			
Specification:	Coeff.	(S.E.) [p-value]	Coeff.	(S.E.) [p-value]	R^2	N
(5) By Education					0.1569	4,060
Some college or less	0.135	(0.085)	-0.179**	(0.082)		[2,577]
Bachelor's degree or more	0.122	(0.098)	-0.074	(0.092)		[1,483]
P-value on test of equal coefficients		[0.923]		[0.397]		
(6) By Age					0.1577	4,060
Below median (less than 50)	0.022	(0.091)	-0.191**	(0.086)		[2,107]
Above median (50 or more)	0.252***	(0.092)	-0.083	(0.089)		[1,953]
P-value on test of equal coefficients		[0.075]		[0.383]		
(7) By Income					0.1573	4,060
Below median (less than $75k)	0.074	(0.097)	-0.220**	(0.091)		[2,054]
Above median ($75k or more)	0.186**	(0.086)	-0.060	(0.083)		[2,006]
P-value on test of equal coefficients		[0.387]		[0.196]		

Robustness to cognition controls

Table 6: Robustness of the Main Treatment Effects, Part 1

Dependent Variable: Sell-Buy Spread	(1)	(2)	(3)	(4)
Specification:	Coefficient on Complexity Treatment	Coefficient on Consequence Message Treatment	R^2	N
(1) Baseline	0.131**	-0.141**	0.1568	4,060
	(0.065)	(0.062)		
Panel A: Changing Cognition Measures				
(2) Cognition index is the simple average of the 5 cognition measures	0.131**	-0.141**	0.1554	4,060
	(0.065)	(0.062)		
(3) All five components of cognitions score entered separately	0.131**	-0.137**	0.1614	4,060
	(0.065)	(0.062)		
(4) Financial literacy is the only cognition measure	0.107	-0.128**	0.1146	4,060
	(0.066)	(0.063)		
(5) Numeracy measures are the only cognition measures	0.121*	-0.153**	0.1495	4,060
	(0.065)	(0.062)		
(6) Verbal measures are the only cognition measures	0.111*	-0.152**	0.1174	4,060
	(0.066)	(0.063)		

Robustness to sample selection

Table 6: Robustness of the Main Treatment Effects, Part 2

Dependent Variable: Sell-Buy Spread	(1)	(2)	(3)	(4)
Specification:	Coefficient on Complexity Treatment	Coefficient on Consequence Message Treatment	R^2	N
(1) Baseline	0.131**	-0.141**	0.1568	4,060
	(0.065)	(0.062)		
Panel B: Sample Selection				
(7) Include observations with missing demographics (dummied out)	0.130**	-0.139**	0.1585	4,081
	(0.065)	(0.062)		
(8) Include observations with missing cognition index (dummied out)	0.118*	-0.120**	0.1422	4,528
	(0.062)	(0.059)		
(9) Include observations with any missing values (dummied out)	0.117*	-0.118**	0.1441	4,552
	(0.062)	(0.059)		
(10) Exclude Native American and LA county oversamples	0.113*	-0.169***	0.1632	3,704
	(0.068)	(0.064)		

Further robustness checks

Table 6: Robustness of the Main Treatment Effects, Part 3

Dependent Variable: Sell-Buy Spread	(1)	(2)	(3)	(4)
Specification:	Coefficient on Complexity Treatment	Coefficient on Consequence Message Treatment	R^2	N
(1) Baseline	0.131**	-0.141**	0.1568	4,060
	(0.065)	(0.062)		
Panel C: Different Controls				
(11) No cognition controls	0.087	-0.159**	0.0825	4,060
	(0.068)	(0.064)		
(12) No demographic controls	0.137**	-0.140**	0.1465	4,060
	(0.065)	(0.062)		
(13) No secondary experimental controls	0.125*	-0.138**	0.1534	4,060
	(0.065)	(0.062)		
Panel D: Topcoding				
(14) Buy and sell valuations topcoded at $100,000	0.111**	-0.108**	0.1427	4,060
	(0.054)	(0.051)		

Take-aways from robustness table

- The consequence message treatment is extremely robust (coefficient is stable and significant in all 13 rows)
- The complexity treatment is sensitive to having high-quality cognition controls
  - The coefficient is quite stable across specifications, but loses significance at the 5% level if observations with missing cognition controls are included or if some cognition measures are omitted
  - The sensitivity to cognition controls can be traced to the fact that (i) cognition is a strong predictor of the spread and (ii) the cognition index is not perfectly balanced by complexity treatment (p-value: 0.072)

Balance tests

Table A1: Balance Tests

Variable	(1) No Complexity	(1) Complexity	(1) p-value on test of equal means	(2) No Consequence Message	(2) Consequence Message	(2) p-value on test of equal means
Panel A: Excluded from Baseline Sample due to:						
Missing annuity valuation data	0.008	0.011	0.322	0.011	0.009	0.491
Missing demographic data	0.003	0.007	0.099	0.006	0.005	0.507
Missing cognition data	0.090	0.115	0.008	0.109	0.104	0.627
Panel B: Balance on Control Variables in the Baseline Sample						
Cognition index	-0.04	0.02	0.072	-0.01	0.01	0.704
Demographic control variables		(not displayed)			(not displayed)	
P-value of joint test of equality of control variables		0.107			0.788	

Conclusion

- Investigate behavioral mechanisms affecting annuity choices using hypothetical choice experiment
  - use vignettes to randomize complexity of annuity choice
  - have measure of deviation from rationality ("spread")

- Key findings:
  - More complexity increases the spread → first causal evidence of cognitive limitations reducing the rationality of annuity choices
  - Consequence message decreases spread → first causal evidence that narrow choice bracketing reduces the rationality of annuity choices

Implications

- Deviations from rationality imply that one cannot take observed annuity demand as a revealed preference
  - E.g., the fact that Social Security is paid out as an annuity (rather than a lump sum) could maximize welfare despite low levels of observed demand for annuities.
- Findings on role of complexity
  - Relatively little scope for interventions; annuity decision is inherently complex (need to think about future and stochastic outcomes)
- Findings on role of choice bracketing
  - More scope for interventions to improve quality of annuity choice: induce people to make a link with consumption planning in retirement (and frame it as such)

On to the next paper

Using Consequence Messaging to Improve Understanding of Social Security

Anya Samek

Arie Kapteyn

Andre Gray

Preparing for Financial Security at Older Ages is Difficult

- How can we help people making better decisions?
- We consider two key decisions:
  - When to claim Social Security Benefits
  - Whether (and how much) to annuitize
- We experimentally investigate the power of consequence messaging
  - (Essentially: highlight outcomes of decisions)

How do we get the messages across?

- Tell a story about the possible consequences of certain decisions
- In our case, we try two approaches ("vignettes"):
  - A written story of a financial advisor and a client (the "written narrative")
  - A short video with the same content
- Here is an example of a video about the consequences of annuitization:
- https://www.youtube.com/watch?v=-AbXiHpXewU

Experimental Set-up

- We invited 800 respondents, aged 50-60, of the Understanding America Study (UAS)
- Respondents were randomly assigned to six treatments*

Experimental Set-up

- We invited 800 respondents, aged 50-60, of the Understanding America Study (UAS)
- Respondents were randomly assigned to six treatments

	Control	Written Vignette	Video Vignette
Annuities	108	110	100
Social Security	105	113	123

Total response: 659; response rate: 82%

The UAS is a probability-based Internet panel of about 6500 respondents

- Respondents are drawn from postal addresses and receive a tablet and broad band internet access if needed.
- Core information includes:
  - Cognitive tests/numeracy/financial literacy
  - Personality (big five)
  - Core HRS instrument (every two years)
  - "What do People Know about SSA programs?"
  - "How do people want to receive information about SSA programs?"
  - These waves are being combined in one easy to use dataset
  - Financial wellbeing (CFPB)

We tested the efficacy of the treatments in a number of ways

- Respondents were given two scenarios about the man from the video (or written narrative) (in random order) and asked to give advice how much annuity to purchase, or when to claim.
  - The “long-life” scenario described the man as being in relatively good health and expecting to live a longer life (to about age 85)
  - The “short-life” scenario described the man as being in relatively poor health and expecting to live a shorter life (to about age 70).

Effects of Variations in Life Expectancy

- Respondents with a better understanding are expected to recommend a later claiming age or larger annuity purchase amount in the long-life scenario than in the short-life scenario

Directionally Accurate Responses by Treatment

Effects of Variations in Life Expectancy

- Respondents with a better understanding are expected to advise a later claiming age or larger annuity purchase amount in the long-life scenario than in the short-life scenario

Directionally Accurate Responses by Treatment

	Control	Written Vignette	Video Vignette
Annuities	66.7%	75.5%	70.0%
Social Security	80.1%	82.3%	82.1%

(Differences are not statistically significant)

Effects on Knowledge

- Annuity Quiz (True or False):
  - An annuity is a financial product that pays a lump sum when you die.
  - An annuity is a financial product that is like insurance against outliving your money in your lifetime.
  - If you purchase an annuity, you can do so with just part and not all of your savings.
  - You can buy an annuity with your retirement savings.

Effects on Knowledge (2)

- Social Security Claiming Quiz (True or False):
  - Claiming Social Security earlier, results in a lower monthly payment for a longer period.
  - Claiming Social Security later, results in a higher monthly payment for a shorter period.
  - You have to claim Social Security as soon as you stop working completely.
  - You can retire, live off of your retirement savings, and claim Social Security later.

Effects on Percent Correct
(Standard Deviations in Parentheses)

	Control	Written Vignette	Video Vignette
Annuities	80.1%	**90.7%**	**90.25%**
	(22.35)	(18.19)	(20.69)
Social Security	77.6%	**93.4%**	**92.28%**
	(25.93)	(16.71)	(20.28)

Red bold: statistically significant, P<.002

We also asked how respondents would like to receive communications

- Information by mail: 37.8%
- Reading an article online: 26.25%
- Watching a video online: 24.28%

Discussion

- Preliminary results suggest:
- The treatment improve understanding significantly
  - Effects on directionally correct changes in response to changes in life expectancy are in the right direction, but significant
- Written and Video narratives about equally effective

Thank you!