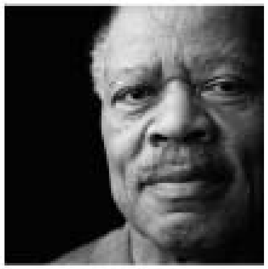

"Who Values the SS Annuity? New Evidence from the HRS"

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Life Annuities in Theory

- Life annuities play a central role in life-cycle theory when there is uncertainty about length-of-life
- Literature suggests that annuities are welfare enhancing under wide range of assumptions
- Implications

  1. People ought to find life annuities valuable
  2. We ought to observe life annuities comprising large part of portfolios

Annuities in Practice

- Social Security as an annuity
  - At 2/5 of total wealth, SS is the primary source of annuitization in the United States
  - Virtually the *only* source of *inflation-indexed* life annuitization (few exceptions)

- Few other sources of annuity income
  - DB plans are on the decline
  - Remaining DB plans now likely to offer a lump-sum option
  - Most 401(k) and other DC plans do not even offer an annuity as a payout option
  - Voluntary annuity market is incredibly small

- Suggests a “disconnect” between theory and practice → the annuity puzzle

Potential Explanations?

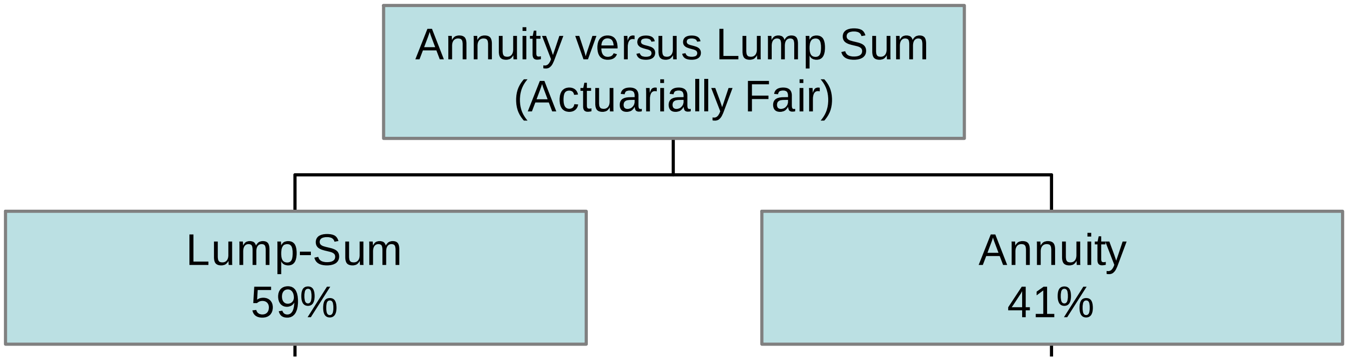
- A variety of explanations have been proposed
  - High prices / adverse selection (Mitchell, et al 1999)
  - Bequest motives (Bernheim 1991)
  - Risk sharing within families (Kotlikoff and Spivak 1981)
  - Desire for liquidity to hedge medical expenditure shocks (Turra and Mitchell 2005; Sinclair and Smetters 2005)
  - Option value of waiting for potential arrival of information about mortality or returns (Milevsky and Young 2002)
  - Pre-existing annuities from SS already high enough (Dushi and Webb 2004), or even too high (Bernheim 1991)
  - Incomplete annuity markets (e.g., lack of inflation protection, insufficiently flexible payout paths)

- But the puzzle remains
  - None of these explanations seem to be strong enough in and of themselves to explain the dramatic lack of annuitization
  - Combinations can generate low annuitization, but this just creates new puzzles (e.g., why don’t people annuitize when they become widows?)

Our Approach

- Generate new data to overcome data scarcity
- Experimental HRS module (2004 wave)
  - ≈1,000 people, ages 50-64
  - Similar to full HRS cohort on observables (table 1)
- “Imagine you are 65 years old and you are receiving $1,000 per month in Social Security benefits …
  - Suppose you were given the choice to lower that benefit by half, to $500 per month. This one-half benefit reduction will continue as long as you live.
  - In return, you would be given a one-time, lump sum payment of $87,000.
  - Would you take the $1000 monthly benefit for life or the lower monthly benefit with the lump sum payment?”

Preferences: SS Annuity v. Lump-Sum



First key finding: 3 out of 5 respondents will not annuitize even when the annuity is:

- Actuarially fair for average person
- Indexed to inflation
- No longer "crowded out" by full SS benefit

Suggests that high loads, lack of inflation indexation and presences of SS are *not* the complete answer to the annuity puzzle!

Preferences: SS Annuity v. Lump-Sum

Annuity versus Lump Sum
(Actuarially Fair)

Lump-Sum
59%

Annuity
41%

Annuity vs. Lump Sum
(Lump Sum Reduced 25%)

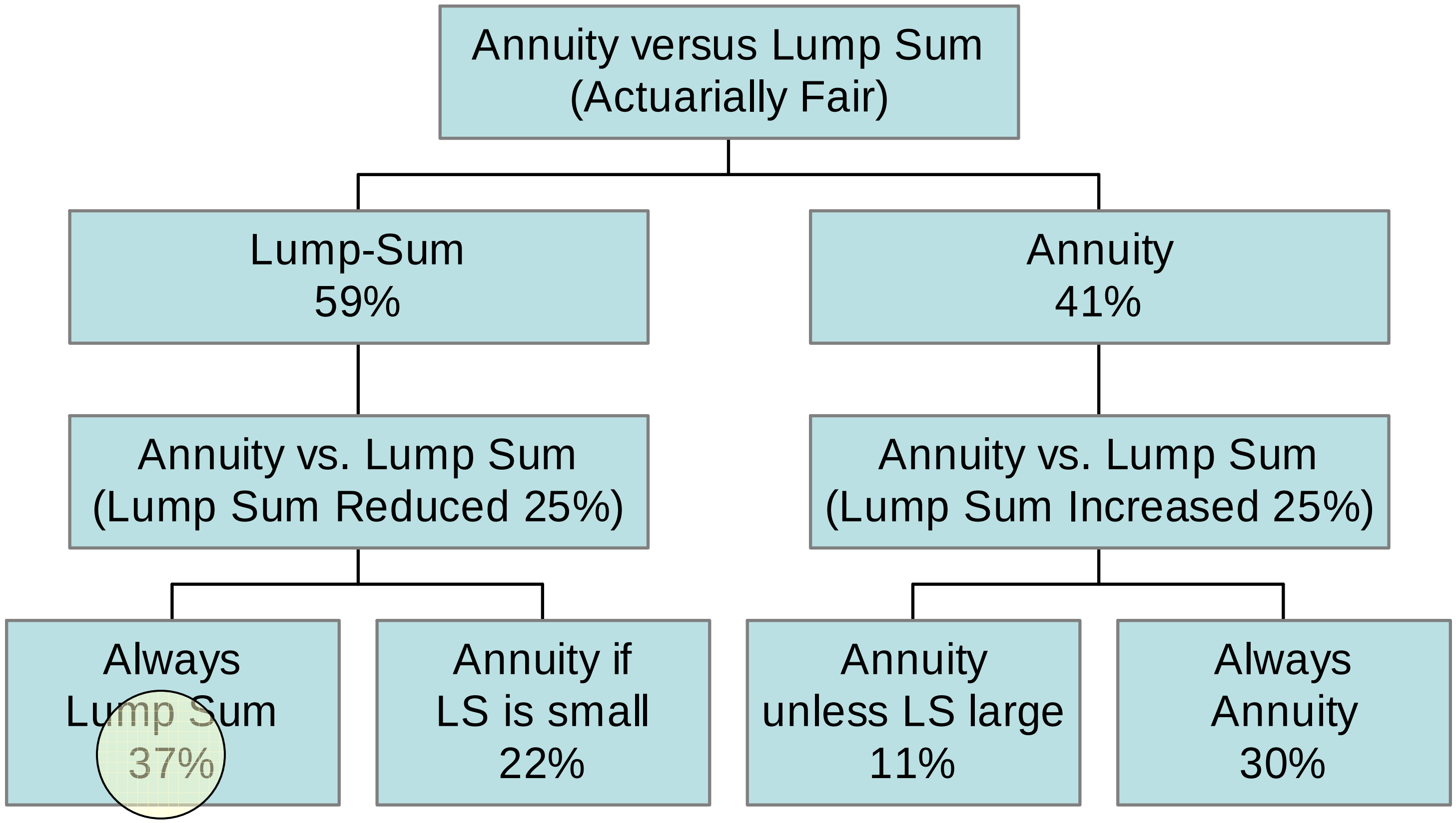
Annuity vs. Lump Sum
(Lump Sum Increased 25%)

Then, depending on answer, we either increase or decrease the lump-sum amount by 25%

Preferences: SS Annuity v. Lump-Sum

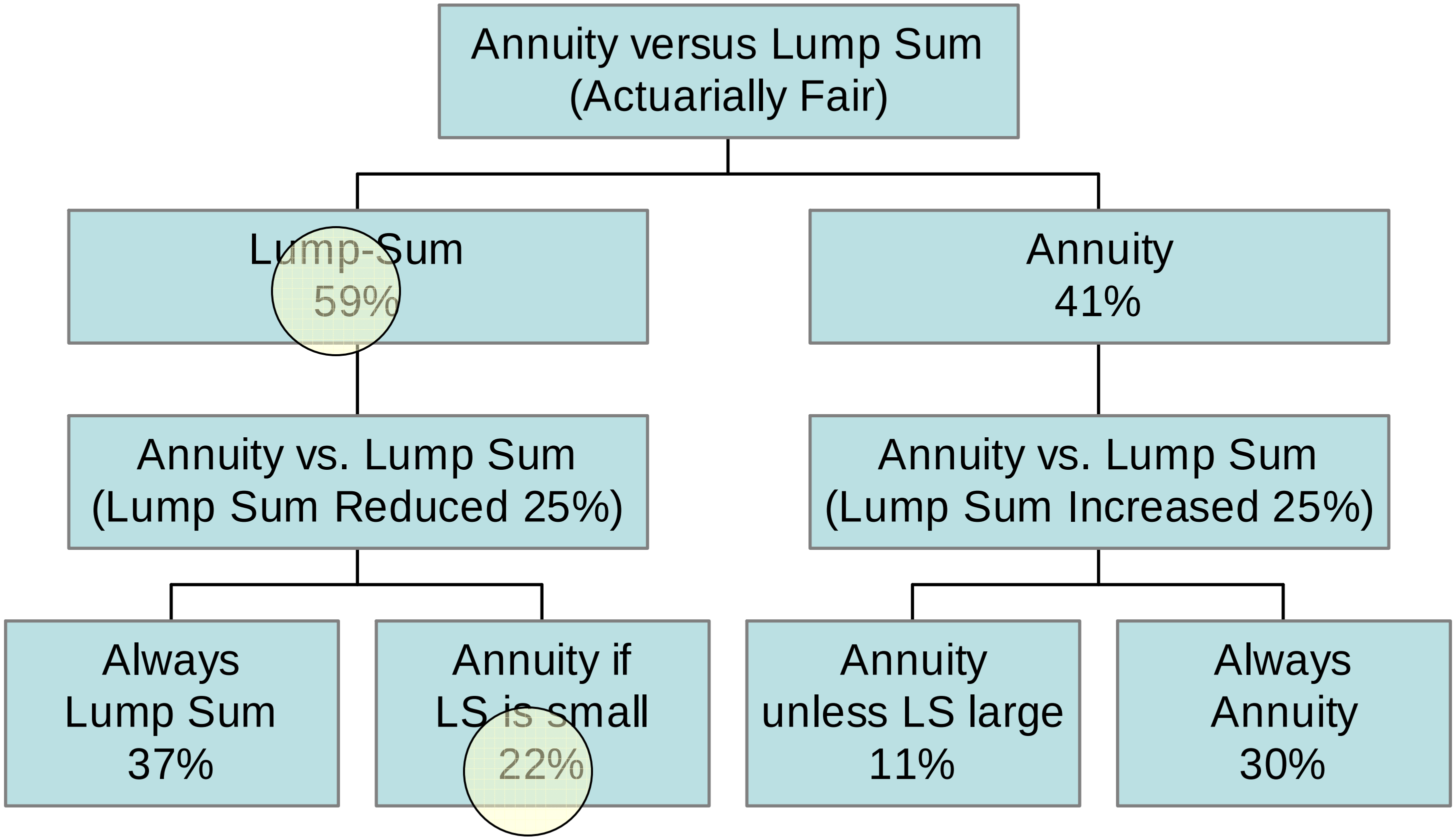
- Annuity versus Lump Sum (Actuarially Fair)
  - Lump-Sum 59%
    - Annuity vs. Lump Sum (Lump Sum Reduced 25%)
      - Always Lump Sum 37%
      - Annuity if LS is small 22%
  - Annuity 41%
    - Annuity vs. Lump Sum (Lump Sum Increased 25%)
      - Annuity unless LS large 11%
      - Always Annuity 30%

Preferences: SS Annuity v. Lump-Sum



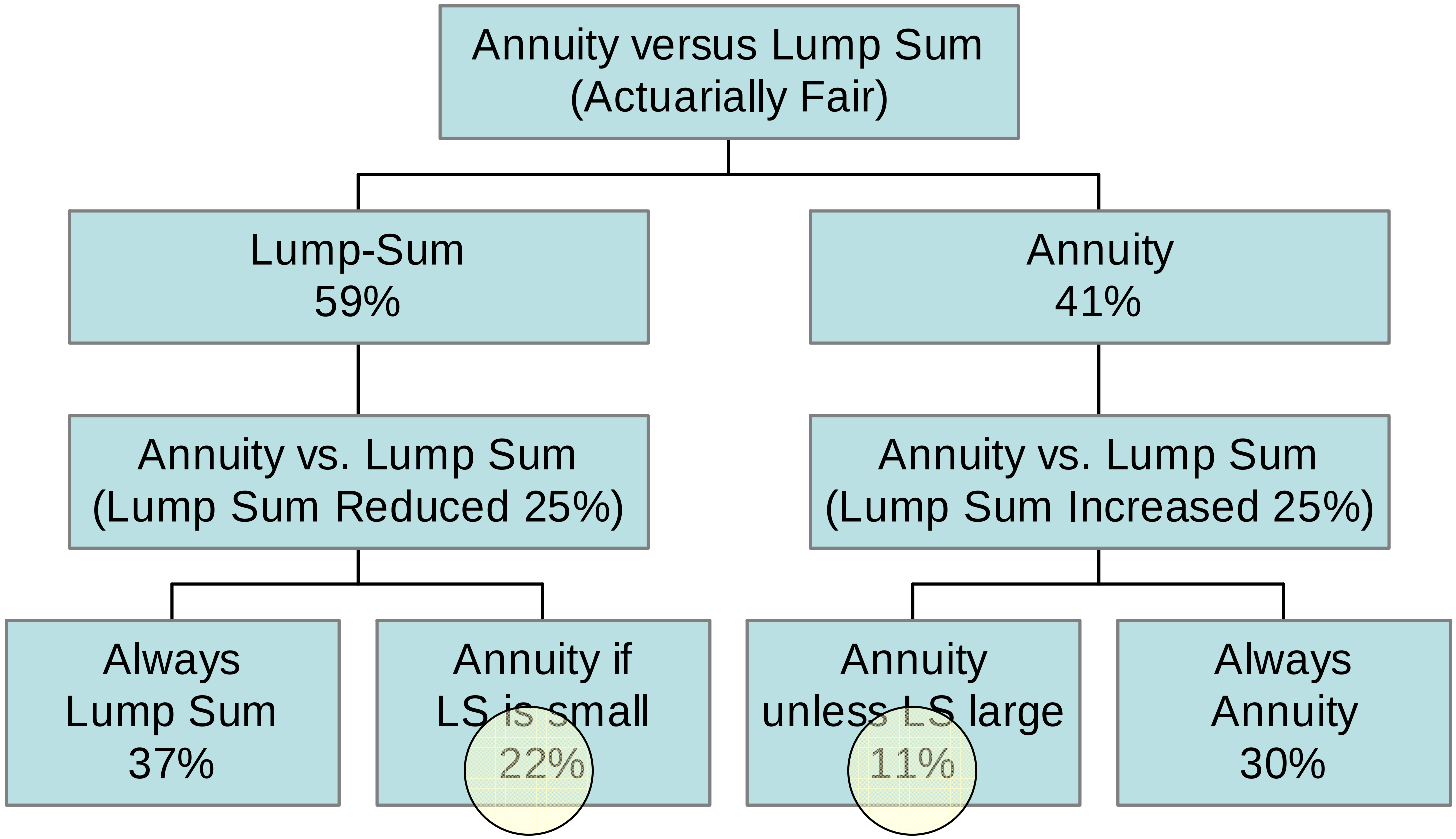
Nearly 2 of 5 all respondents will take lump-sum even when annuity is heavily subsidized!

Preferences: SS Annuity v. Lump-Sum



But one-third of non-buyers (22% / 59%) will switch to annuity if price drops by 25%.

Preferences: SS Annuity v. Lump-Sum



One-third of entire population shows some price sensitivity within the +/- 25% range

Preferences: SS Annuity v. Lump-Sum

- Annuity versus Lump Sum (Actuarially Fair)
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30% of respondents value the annuity highly, and will not give up even for a 25% premium

Who Values the Annuity?

- Use rich set of HRS covariates to find out what characteristics are correlated LS v. annuity choice
- X's include:
  - Demographics: Age, education, gender, employment status, marital status, children
  - Longevity: self-reported health, subjective longevity (relative to life tables)
  - Financial: Wealth, income, DB, DC
  - Preferences: risk aversion, time preference
  - Financial literacy: splitting lottery, interest calc.
- Probit / ordered logit

Probit Specification

Annuity versus Lump Sum
(Actuarially Fair)

Lump-Sum
59%

$Y_i = 0$

Annuity
41%

$Y_i = 1$

Ordered Logit

Annuity versus Lump Sum
(Actuarially Fair)

- Lump-Sum
  59%
  - Annuity vs. Lump Sum
    (Lump Sum Reduced 25%)
    - Always
      Lump Sum
      37%
    - Annuity if
      LS is small
      22%
- Annuity
  41%
  - Annuity vs. Lump Sum
    (Lump Sum Increased 25%)
    - Annuity
      unless LS large
      11%
    - Always
      Annuity
      30%

$Y_i = 1$	$Y_i = 2$	$Y_i = 3$	$Y_i = 4$
Always Lump Sum 37%	Annuity if LS is small 22%	Annuity unless LS large 11%	Always Annuity 30%

What Matters?

- Age: even though respondents are asked to think of themselves as being age 65, we still find patterns with age.
  - 60-64 year olds are 7-10 pct pts more likely to annuitize than younger cohorts
- Individuals in poor health are 18 – 22 pct points less likely to choose the annuity
  - Consistent with Brown (2001) that selection is driven by poor health withdrawing from market, as opposed to excellent health entering in
- Being more optimistic about longevity than one’s life-table prediction makes one more likely to annuitize (in ordered logit specification)

What Matters?

- Unemployed individuals are less likely to annuitize
  - Lump-sum may be desirable in the face of liquidity constraints
- More highly educated individuals are more likely to take the lump-sum
  - Individuals with 16+ years of education are 16 pct pts less likely to choose annuity
- Conditional on education, more financially literate individuals are more likely to choose the annuity
  - While intuitive, this is the first empirical evidence that financial literacy matters for annuity choice
  - Financial literacy $\neq$ years of education

What (Surprisingly) Does Not Matter?

- Gender: Women should find annuity relatively more attractive than men given mortality differences and uniform pricing. We find no effect, even for singles.
- Marital status: No effect, despite predictions about risk-sharing
- Risk aversion
- Discount rate – if anything, it goes the “wrong way,” i.e., more patient people prefer lump-sum
- Wealth, income, presence of pensions, proxies for bequest (children, will)


Conclusions

- 3/5's of sample prefer lump-sum over annuity (even after several major problems with annuity markets are solved)
  - Actuarially fair prices
  - Inflation-indexed
  - Less "background" annuitization
- About one-third of population does show some price sensitivity
  - 25% "price decrease" of annuity (reduction in lump-sum) causes 22% of people to start buying annuity
  - 25% "price increase" of annuity (increase in lump-sum) causes 11% of people to stop buying annuity

Conclusions, cont'd

- Simulations suggest that risk-averse consumers will place a value on an inflation-indexed life annuity that is 20 percent (married) to 50 percent (single) higher than its actuarial value.
- Yet our data suggests that only 30 percent of population values the annuity enough to choose it when there is a 25% mark-up
- Those in poor health are far less likely to annuitize, (only 7 percent of sample)
- Conditional on education, higher financial literacy makes one more likely to annuitize