Income as the Outcome

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Why Do We Save for Retirement?

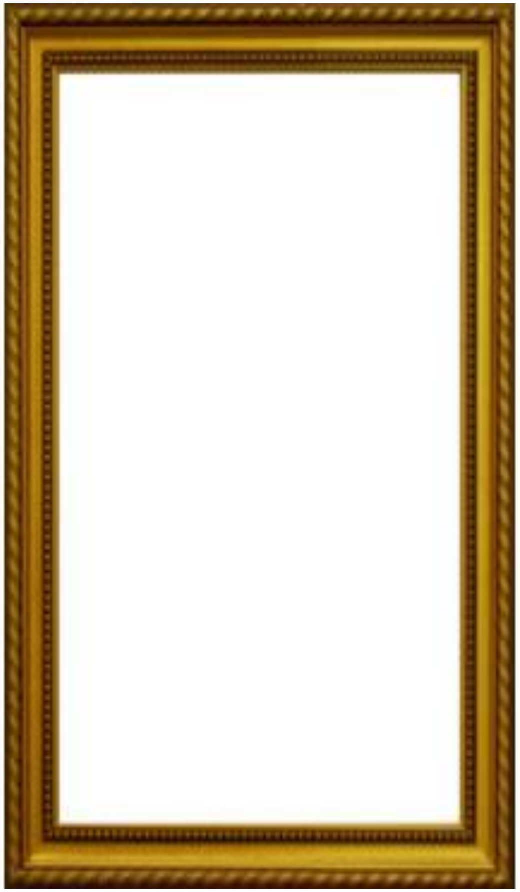
1. To have a large lump-sum of wealth at the time when we retire?

2. To be able to maintain our ability to maintain the consumption or living standard to which we have become accustomed?

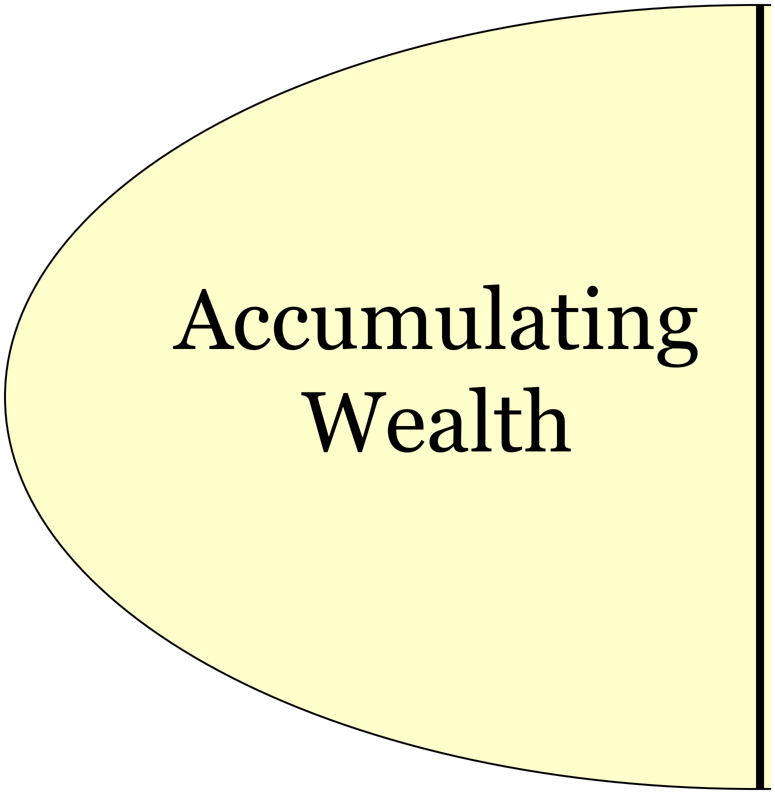
Narrow Framing

- As a country, we have *“narrowly framed”* the retirement conversation to be about the first answer - wealth accumulation

- This answer is incomplete!



Two Halves of the Retirement Nest Egg



The Distribution / Payout Challenge

- Converting to income would be easy if we knew with certainty how long we each would live
  - Simply allocate wealth so that it lasts until the day you die
  - "Good versus excellent estate planning"

- But length-o
  - 65-year-old
    - One in thr
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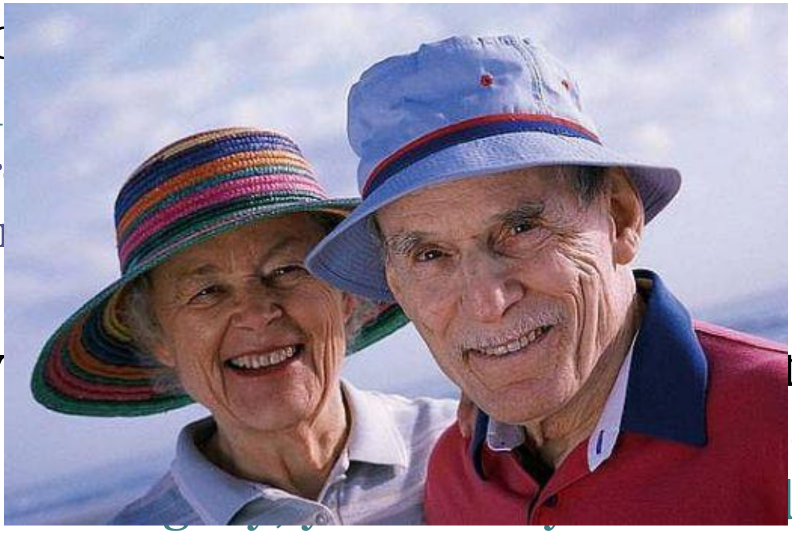


- Uncertainty … risks
  - If consume … of money
  - If consume … lard of living

Solution: *Guaranteed Lifetime Income*

- *A*nnuities help solve the financial planning problem by trading wealth for a flow of income that is *guaranteed to last as long as individual lives*

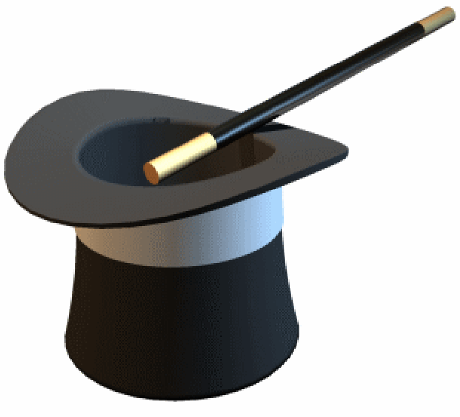
- Annuities generate higher return on DC plan assets by providing a a “mortality premium”

- From perspective of overall well-being, annuitization is equivalent to a substantial increase in non-annuitized financial wealth

Illustrating the mortality premium

- On January 1, suppose 100 individuals invest \$1000 each in a common fund
- Total investment = 100 x \$1000 = \$100,000
- Investment return is 10%
- By December 31, account contains \$110,000
- Only 98 of them survived to end of the year
- Each survivor now has \$1,122 (= \$110,000 / 98)
- Individual rate of return = 12.2% for survivors
    - Even though assets returned only 10%
    - The extra 2.2% return is the "mortality premium"

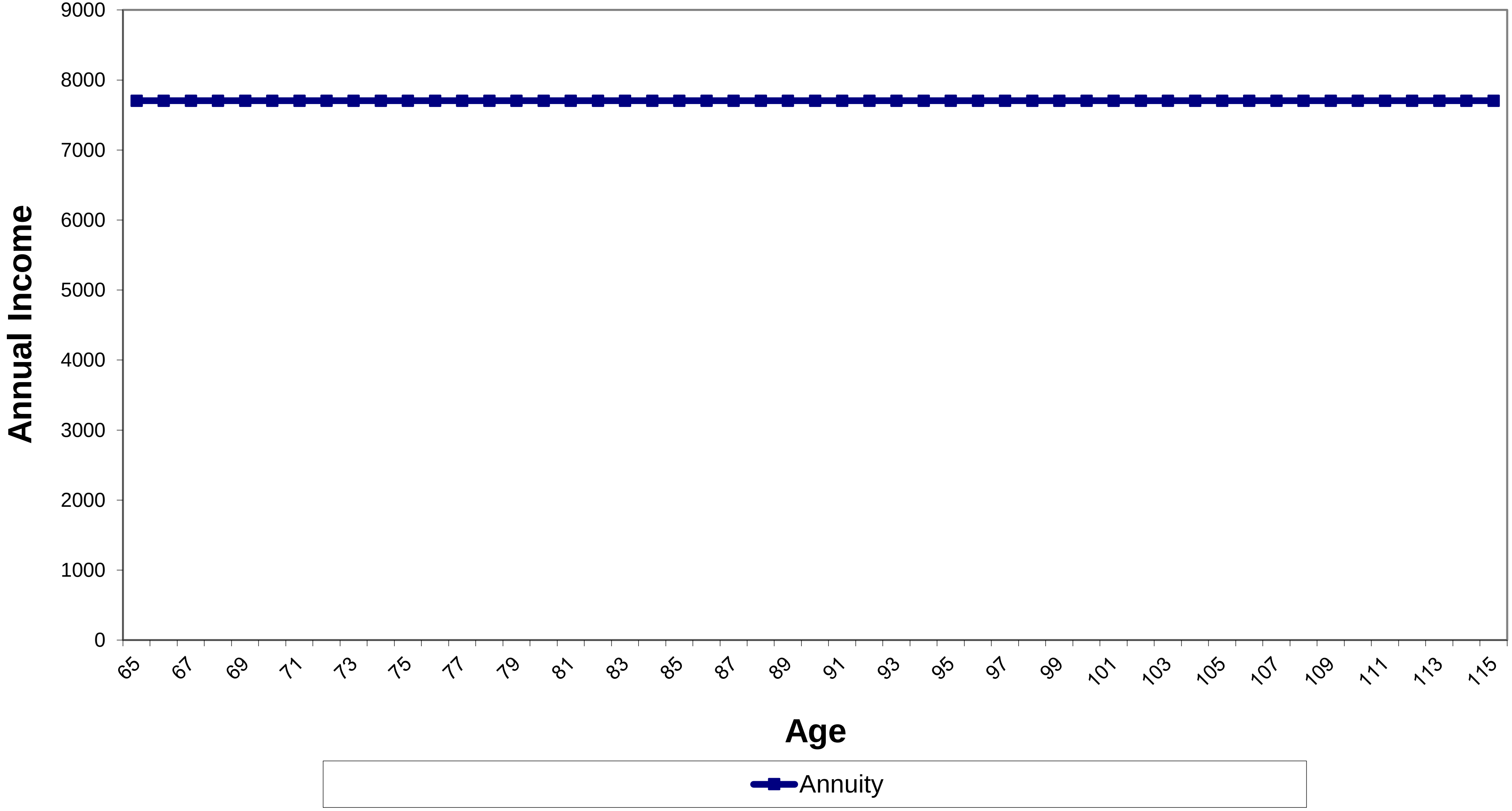
Is it Magic?



- Of course not …
- The extra return is financed by those who die early and give up the ability to leave a larger bequest

Income from Alternative Strategies

Source:Jeffrey R. Brown, The New Retirement Challenge, White Paper available at http://www.paycheckforlife.org/images/ASR_whitepapers.pdf



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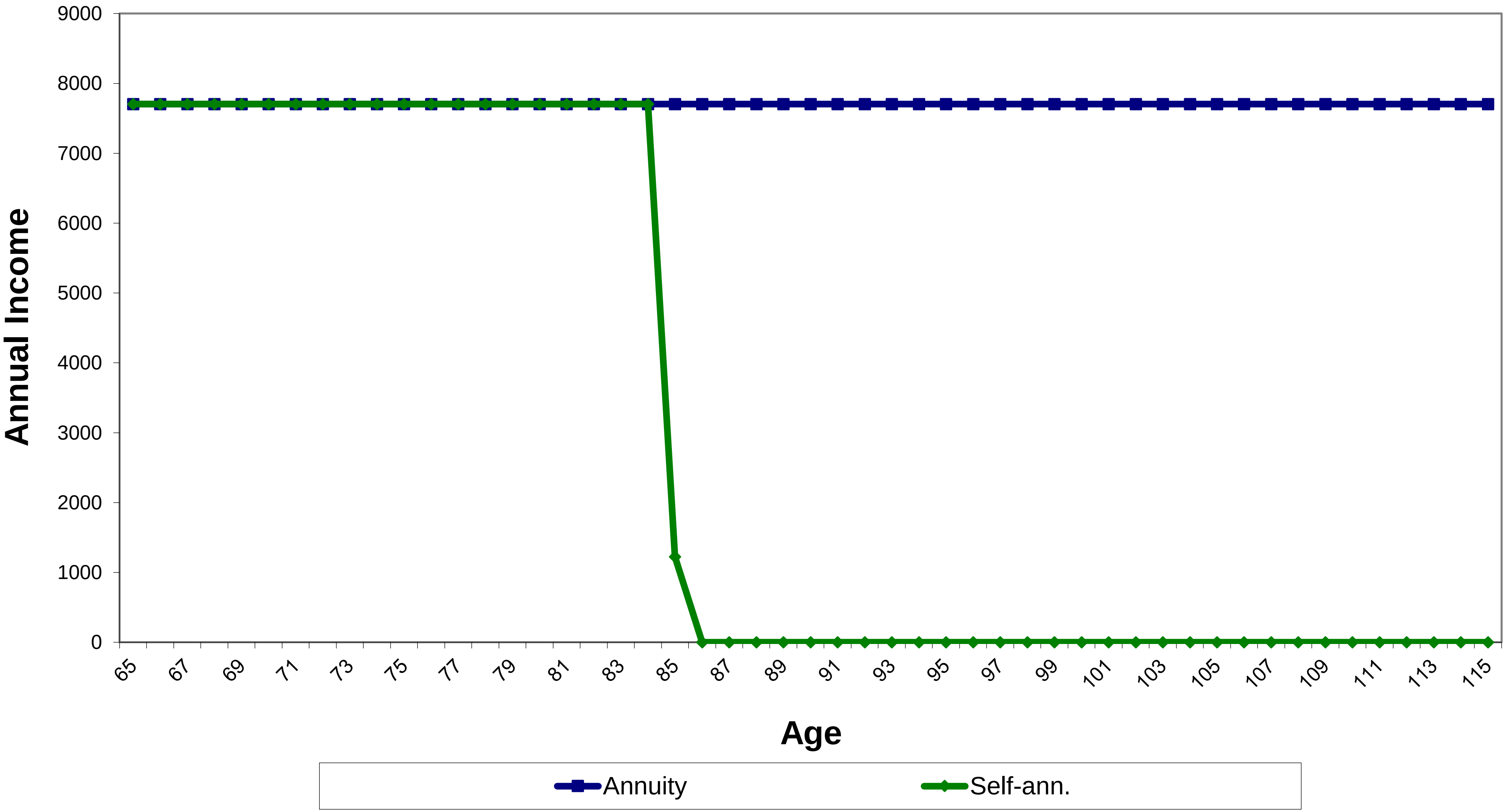

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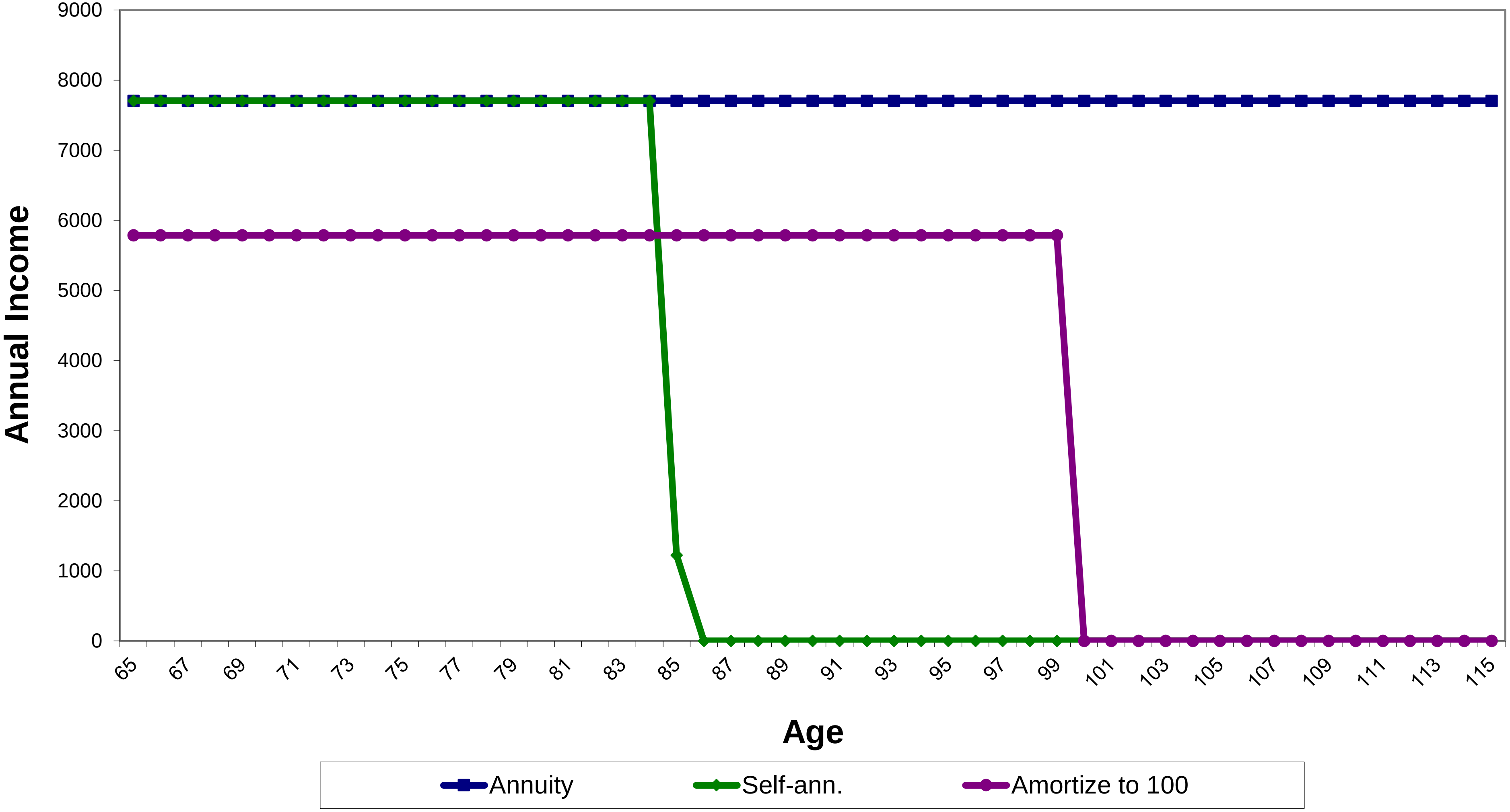

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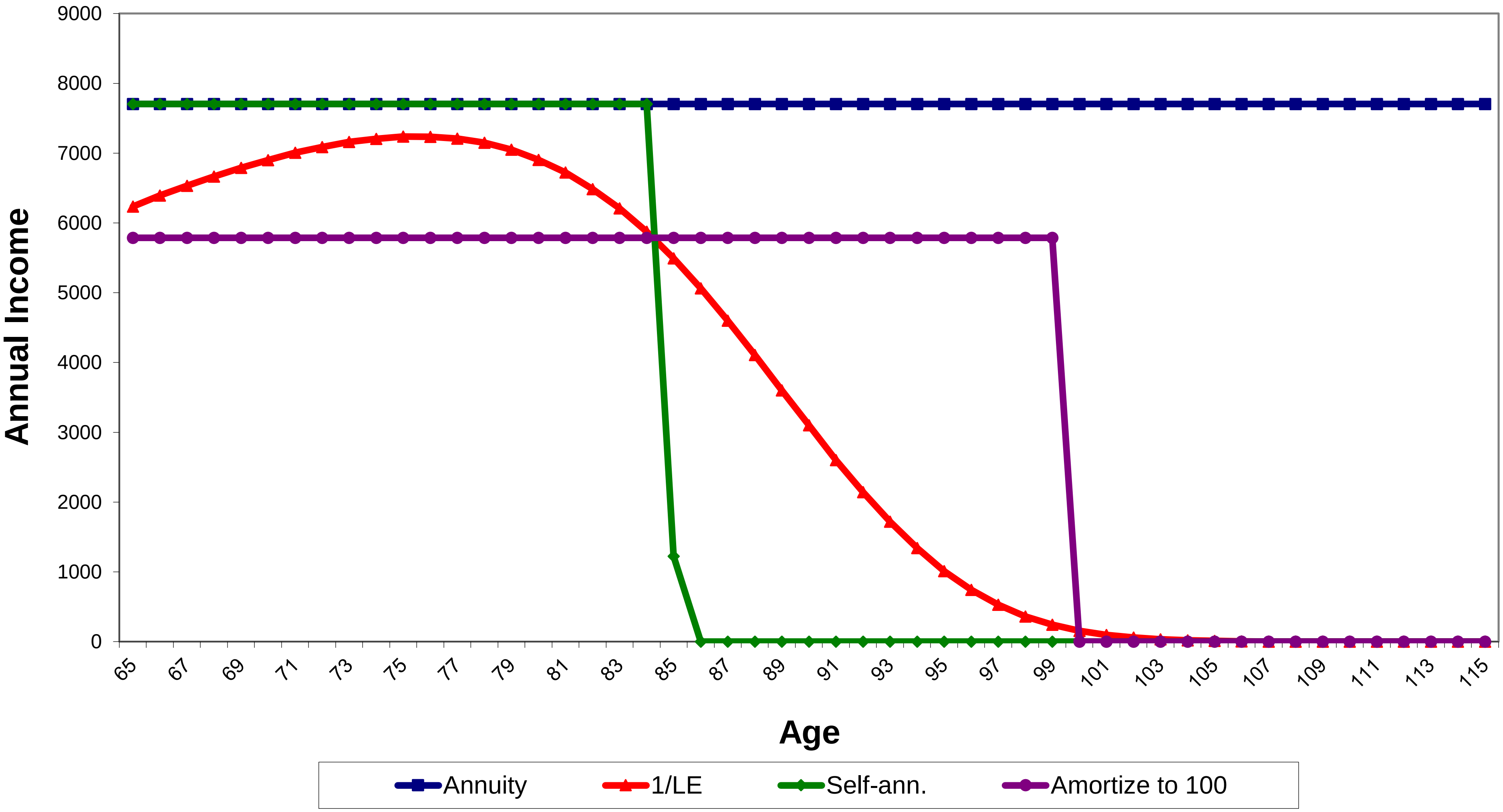

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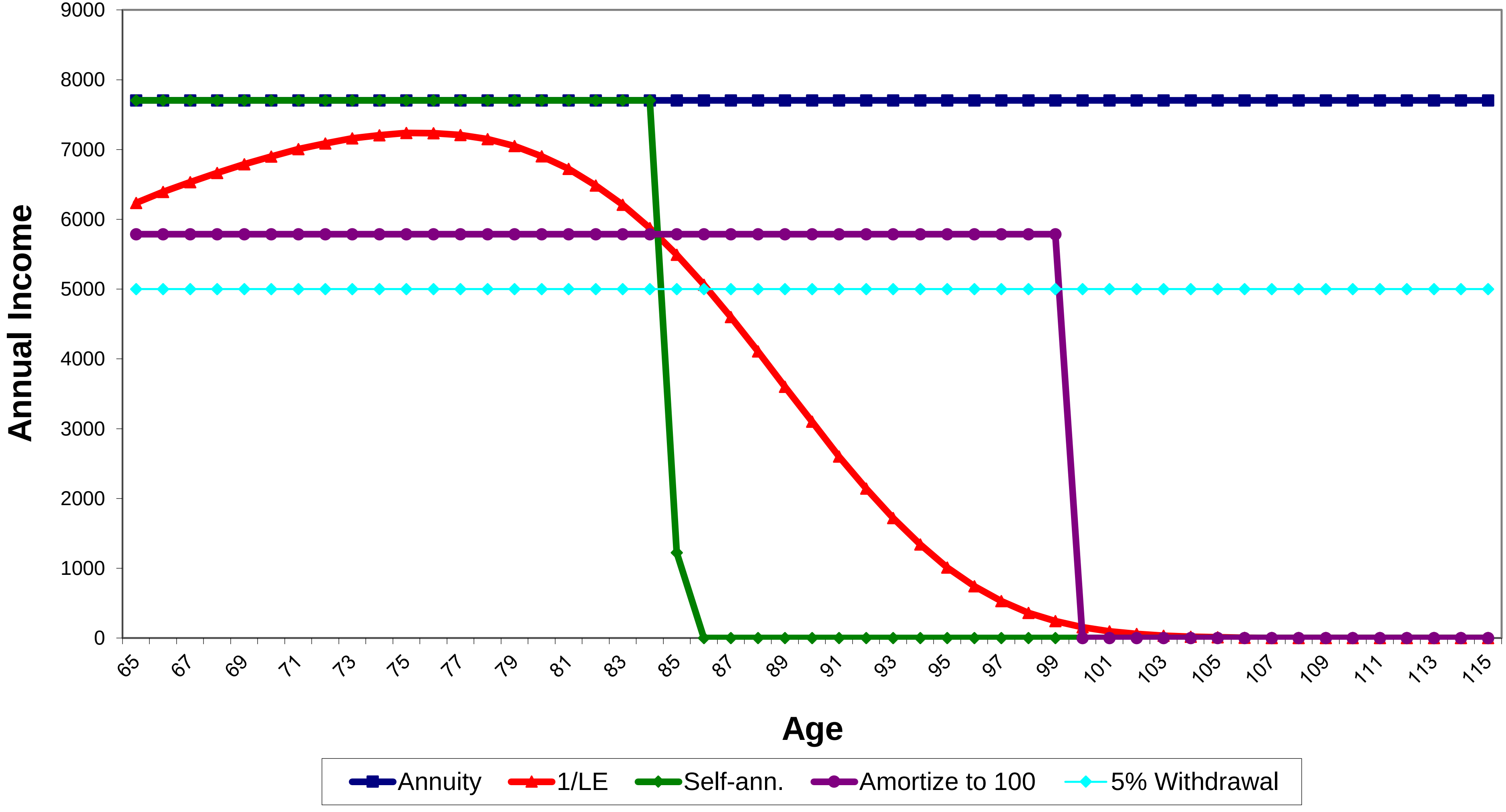


What if Invest in Diversified Portfolio?

- By investing in a riskier portfolio, the expected return is higher, but so is the risk.
- Researchers have shown that if a 65 year old individual "self annuitizes" by investing in stocks and bonds (using historical returns and std deviations) and consumes income equal to what an annuity would provide …
- Even with the stock / bond allocation that minimizes the probability of ruin, there is still approximately a 20% chance of running out of money during one's lifetime
- Only a life annuity can maximize income with *zero* probability of ruin

Source:Moshe A. Milevsky and Chris Robinson, "A Sustainable Spending Rate without Simulation," Financial Analysts Journal, Vol. 61, No. 6, 2005, pp. 89 – 100.

"The Annuity Puzzle"

- Economists believe that having access to guaranteed lifetime income is equivalent to a very substantial increase in wealth
- But real world demand for annuities is limited
- Lots of possible explanations!

Explaining the Puzzle

- Rational reasons
  - Already annuitized by Social Security
  - Bequest motives
  - Insurer counterparty risk
  - Many others

- But I am increasingly convinced that people are not behaving rationally / optimally
  - More on this in a few minutes!

We Discourage Lifetime Income

- We have created a retirement system that discourages annuitization at nearly every step!

- A Few Examples:
  - Financial planning software that ignores uncertainty about length-of-life
  - Unsustainable minimum distribution rules
  - Discouraging plan sponsors from providing annuity options (e.g., fiduciary concerns)
  - QDIA's that do not convert to income
  - Communicating accounts as snapshot balances rather than in terms of the income it can support

A First Step?

- 2013 DOL
- Advance Notice of Proposed Rulemaking

- Pension benefit statements would need to include projections of retirement income, rather than just account balances

How Do Participants Behave?

The Traditional View

- "Revealed Preference"
  - Consumers are rational and behave optimally
  - If they don't buy annuities, it must be because they do not value them

The New View

- "Most people don't think like economists"
  - Average levels of financial literacy are low
  - People exhibit behavioral biases
  - Preferences are unstable and easily manipulated
  - They are confused

- If true, then policy and plan design can have strong influences on behavior!

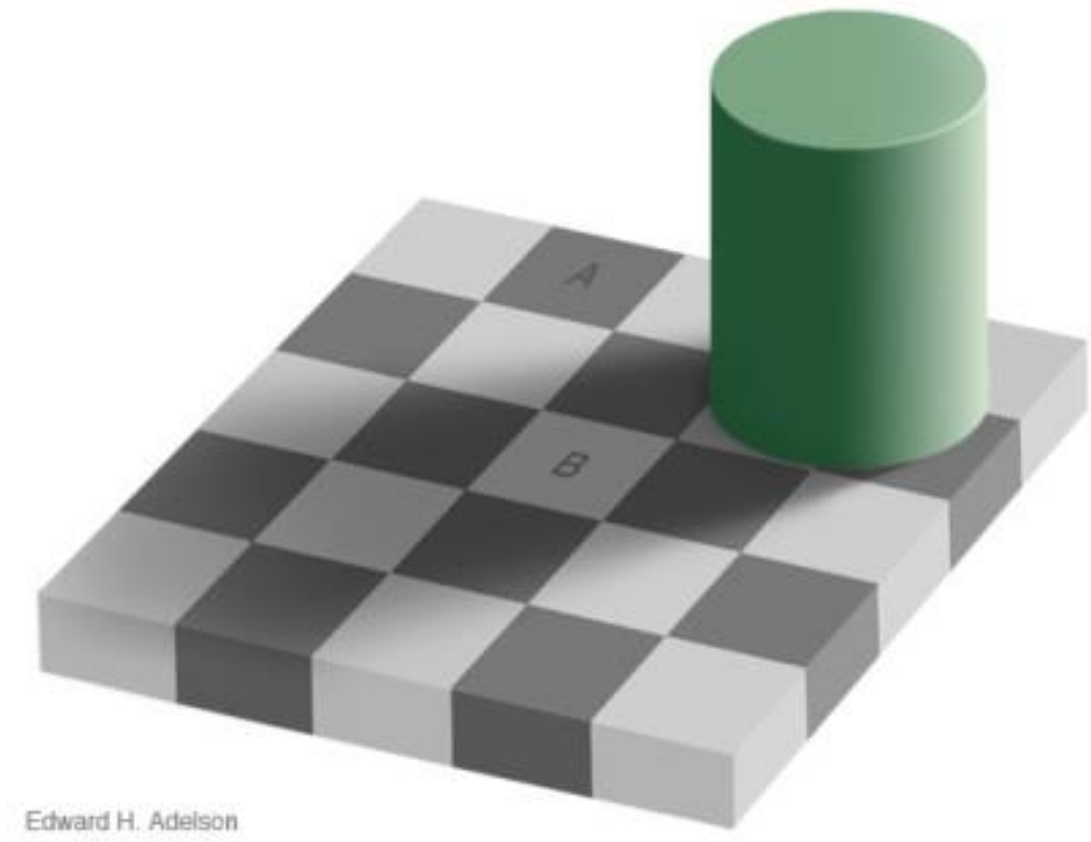
Low Financial Literacy

- Fewer than 1 in 5 can correctly compute compound interest over 2 years
- Half cannot explain difference between a stock and a bond
- On average, 401(k) participants rate their employer's stock as less risky than a diversified stock portfolio

Complexity & Poorly Defined Preferences

- New research suggests decision complexity leads to inconsistent views about annuities
  - People demand a high price to give up an annuity they already have (e.g., Social Security)
  - But the same people are only willing to pay a very low price to buy an annuity
- This effect is stronger for the less financially sophisticated

Which is darker, A or B?



Source: http://web.mit.edu/persci/people/adelson/images/checkershadow/checkershadow_illusion4med.jpg

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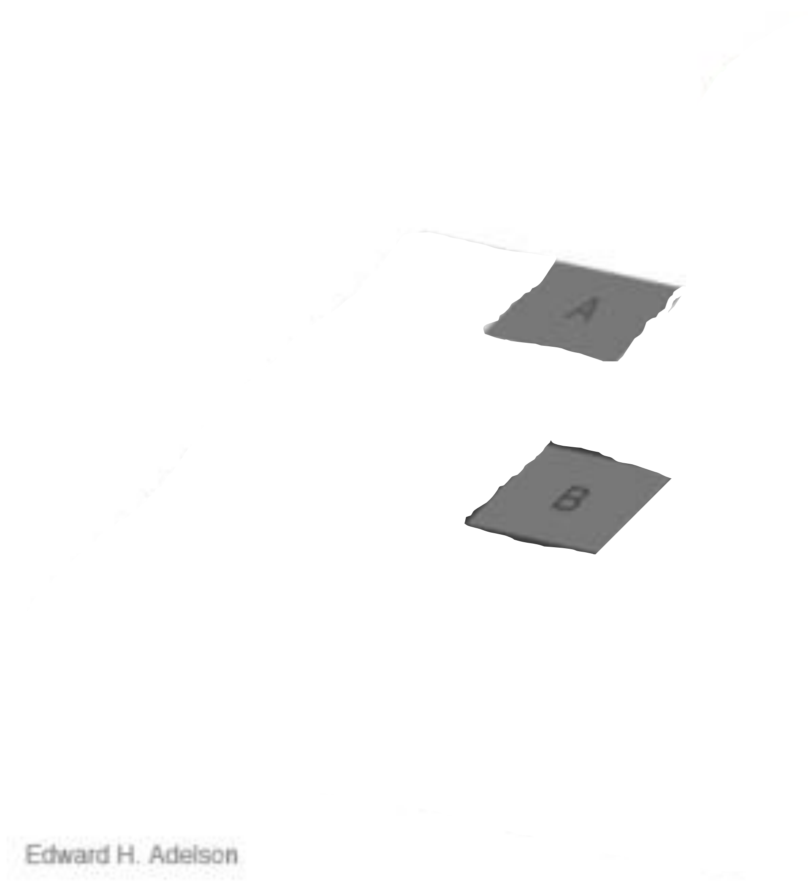

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Visual Illusions

- It is *not your eyes* that are deceiving you
- Visual illusions "occur due to properties of the visual areas of the *brain* as they receive and process information."
- "In other words, your perception of an illusion has more to do with how your brain works – and less to do with the optics of your eye."

Quoted Text source: Cari Nierenberg, http://abcnews.go.com/Health/EyeHealth/optical-illusions-eye-brain-agree/story?id=8455573

Framing

Which Would You Favor?

- Imagine that the US is preparing for the outbreak of an unusual Asian disease which is expected to kill 600 people.
- Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:
  - A : If program A is adopted 200 people will be saved
  - B : If program B is adopted there is a one third probability that 600 people will be saved and a two-thirds probability that no people will be saved.
- Which of the two programs would you favor?

- **72% choose A**

Which Would You Favor?

- Imagine that the US is preparing for the outbreak of an unusual Asian disease which is expected to kill 600 people.
- Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:
  - A : If program A is adopted 400 people will die
  - B : If program B is adopted there is a one third probability that nobody will die and a two-thirds probability that 600 people will die.
- Which of the two programs would you favor?

- **78% Choose B**

Framing Annuities

- In an *investment frame*, annuities look unattractive
  - They appear risky
    - My return depends on how long I live

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- In a *consumption frame*, annuities look like a valuable form of insurance
  - Guarantees consumption no matter how long one lives

Results

- When annuities presented in an investment frame, *only 20% of consumers preferred an annuity to traditional savings vehicle*
- When presented in a consumption frame, *70% preferred the annuity*

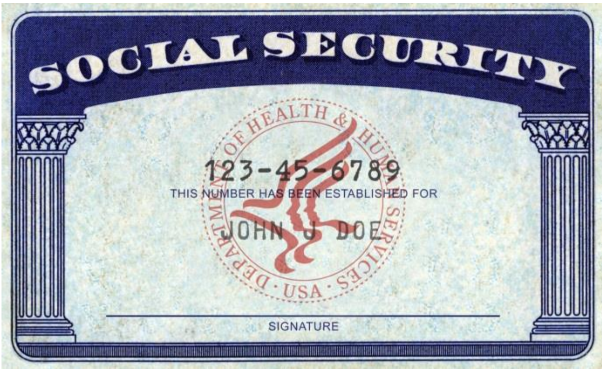
Income Disclosure and Saving

- *Randomized* experiment at Un. of Minnesota
  - Control group and three experimental groups
  - General info, balance info, balance + income
  - *Groups sent income projections increased contributions by more than other groups!*

Source: Goda, Manchester & Sojourner. "What Will My Account Really Be Worth?" NBER Working Paper 17927. March 2012

SS Claiming

- Decision on when to claim SS benefits is an annuitization decision
  - Lower annuity for more years
  - Larger annuity for fewer years



- Research found huge differences (18-24 months!) in intended claiming age depending on how information presented
  - Worst case: “breakeven frame”

Source: Brown, Kapteyn, and Mitchell “Framing Effects and Expected Social Security Claiming Behavior.” NBER working paper 17018. May 2011.

Practical Steps for Plan Sponsors

- The business case for including income options in a plan: The mortality premium from annuities generates a higher return
  - Provide a more secure retirement for any given contribution level
  - Or, for any given level of retirement income, it can be provided for less
- Communication
  - Review materials for investment versus consumption language
  - Review materials for how communicate about longevity risk
  - Communicate in terms of monthly or annual income, not in terms of accumulated balances
- Provide an income option for participants so that there is a reason to initiate a conversation
- Keep an eye out for QDIAs that incorporate lifetime income

Thank You!

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