

**Discussion of**

**“What Determines Annuity Demand at Retirement”**

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## Background

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- This paper studies empirically the determinants of demand for annuities at retirement.
- Theory:
  - Yaari (1965): If price of annuity is actuarially fair, in absence borrowing constraints and bequest motives risk averse households facing longevity risk should fully annuitize their wealth.
  - Brown, Davidoff and Diamond (2005) generalize this result.

- Data:
  - Very few households annuitize private wealth: 70+ in US AHEAD data: 8% own private annuities
  - Those that do are far from annuitizing it fully: SCF 2004 for 65-85 old households: annuitized income (incl. DB pension, soc. sec)/total income  $\approx$  50%.
- Well known lack of annuitization puzzle.

If ever there were a prediction of economic theory that was blatantly violated by the empirical evidence, it is that of full annuitization.

[Jeff Brown, NBER Reporter 2004]

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## Potential Reasons (Poterba 2008)

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- Demand Side
  - Precautionary demand for liquid wealth
  - Bequest motives
  - Access to public or informal private longevity risk insurance
- Supply Side: Prices not actuarially fair (adverse selection, limited competition).

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## This paper

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- Uses SHIW data to study annuity demand, for *various given* prices.
- Hypothetical questions posed to households about preferences over two income streams, starting at age 65, until age of death  $T$

$A1$	$y_i = 1000$	for $i = 65.1, \dots, T$
$A2_W$	$y_{65.1} = W + 500$ $y_i = 500$	for $i = 65.2, \dots, T$

- Question: how many households  $j$  state preference  $A1 \succ A2_W$  for annuity of 500 over lump sum  $W$ , and what  $X_j$  correlate with this?

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## Main Results

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- Overall stated preferences

$A1 \succ A2_{60000}$	$A1 \succ A2_{80000}$	$A1 \succ A2_{100000}$
80%	68%	40%

- Correlation of annuity demand with observables

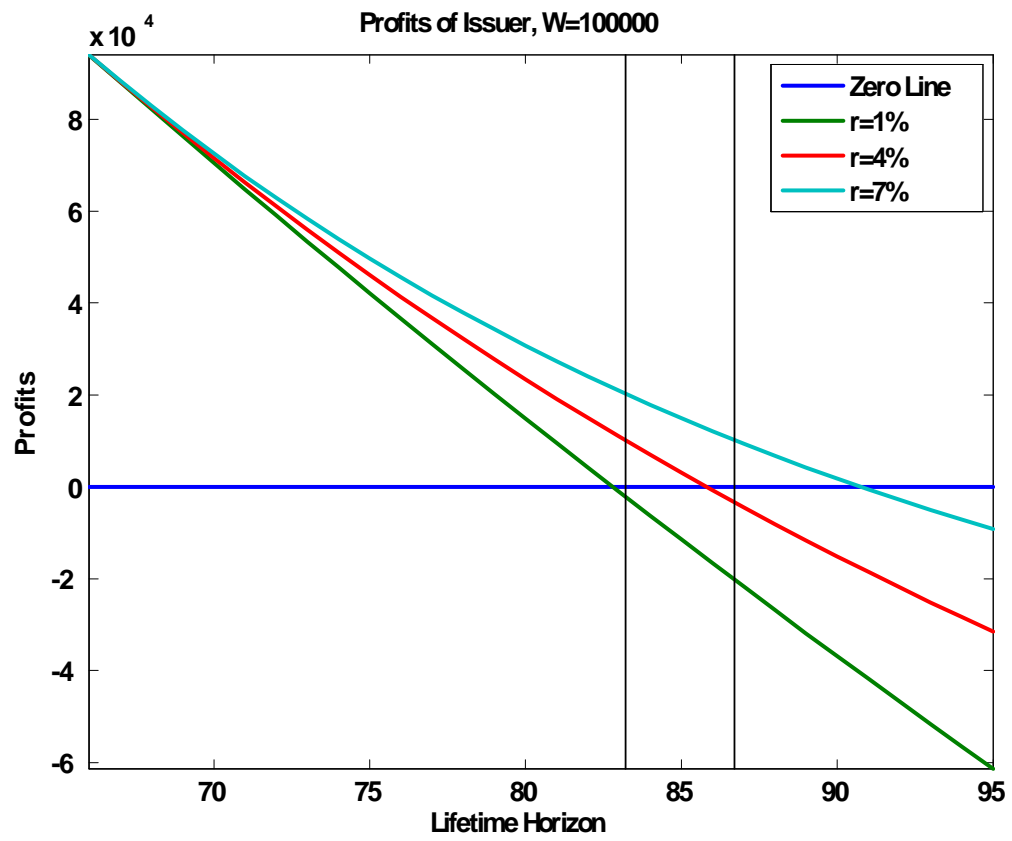
$X_j$	Sex	Mar.	Kids	Health	Age	$\sigma$	$y^d$	Ed.	$a$	Lit.	$\rho$
Corr	0	0	0	+	+	-	+	+	+	+	-
Probit	0	0	0	+	+	-	+	+	0	+	-

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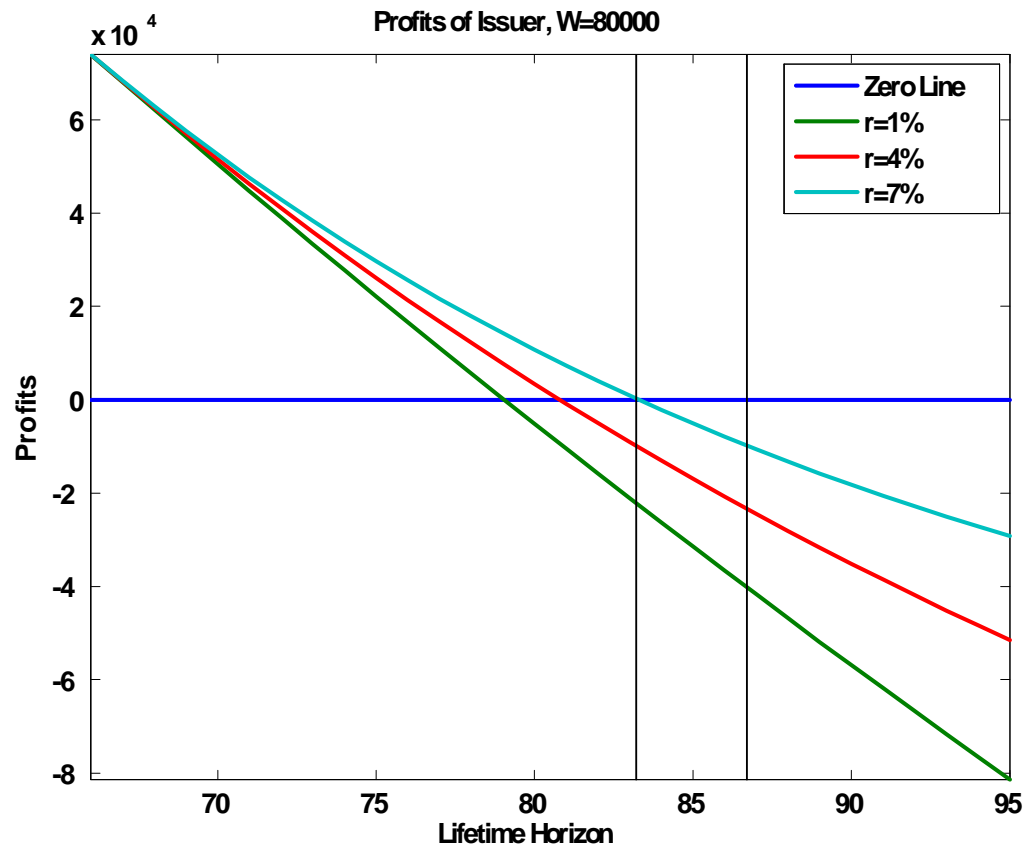
## Comments (I)

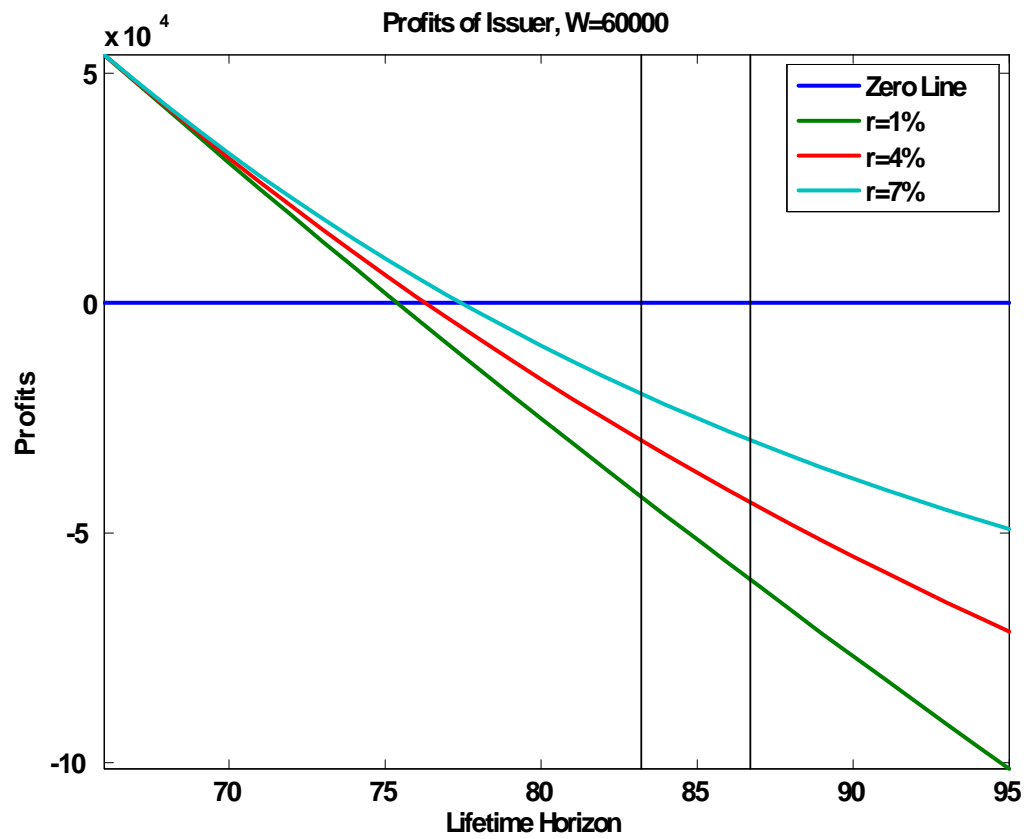
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- Given data on actual purchases of annuities, stated demand seems large. Should we buy stocks of companies that offer annuities?
- Define  $\pi(W, r, T) = W - \sum_{j=65}^J \frac{500}{(1+r)^{j-65}}$ . Companies should sell if  $\pi(W, r, T) > 0$ . Risk-neutral, selfish, non-liquidity constrained households should buy if  $\pi(W, r, T) < 0$ .
- Istituto Nazionale di Statistica: in 2009, life expectancy in Italy at age 65 was 83.2 years (males) and 86.7 (females)









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## Comments (I)

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- In terms of pure present discounted values, annuities look good for  $W = 60,000$  and  $80,000$  (and not so bad for females and males with higher than average life expectancy).
- Perhaps not surprising that a large share of households would want to buy (especially with risk aversion).
- Given the results, why are actual choices so different? What is  $W$  in the data?

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## Comments (II)

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- SHIW has significant panel dimension. Contains additional information about households to help predict annuity demand.
- Examples: might be able to construct measures of permanent income, income risk, health risk (etc.) that one cannot measure in pure cross-section.
- Might help to construct household level empirical proxies for a) precautionary demand for liquid wealth, b) bequest motives c) access to informal private longevity risk insurance.

**Table A1**  
**Panel households of the SHIW, 1987-2006**

Year of first interview	Year of survey									
	1987	1989	1991	1993	1995	1998	2000	2002	2004	2006
1987	8027	1206	350	173	126	85	61	44	33	30
1989		7068	1837	877	701	459	343	263	197	159
1991			6001	2420	1752	1169	832	613	464	393
1993				4619	1066	583	399	270	199	157
1995					4490	373	245	177	117	101
1998						4478	1993	1224	845	636
2000							4128	1014	667	475
2002								4406	1082	672
2004									4408	1334
2006										3811
<b>Cross-sectional sample size</b>	8027	8274	8188	8089	8135	7147	8001	8011	8012	7768
<b>Percentage of total sample</b>		14.6	26.7	42.9	44.8	37.3	48.4	45.0	45.0	50.9