MIT Center for Finance and Policy Conference
Discussion for Paper Session III:
Innovations in Insurance for Retirees

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Frameworks of Analysis

- Life-Cycle Model
- Dynastic Model
- Informal-care Model
- Government Support
Life Cycle Model

Modigliani [1986]
Life Cycle Model Potential Issues

- Retirement-saving puzzle
- Yaari [1965] & Annuity puzzle
New Post-Retirement Specification

- Think of 3 post-retirement phases with random timing:
  - Good health status
  - Poor health status
  - Mortality

- Poor health status: trouble with 3/more ADLs: bathing, eating, dressing, walking across room, getting out of bed
  - Contrast to medical status
  - Asymmetric information

- State-dependent utility
  - Lower level of utility with poor health
  - But, higher marginal utility

- Medicaid nursing-home assistance is an option
New Specification (cont.)

- Idea: worries about future do not cease at retirement; precautionary saving, for instance, may continue

- See Caplin et al., DeNardi et al., Laitner et al., Reichling & Smetters
“Medicaid Insurance in Old Age”
Mariacristina De Nardi, Eric French, John Bailey Jones

- Numerical analysis of model & estimation

- Data:
  - HRS AHEAD: Panel 1993-2010; roughly 3200 single households; asset, annuity, and nursing-home data
  - MCBS (Medicare Current Beneficiary Survey) 1996-2006: health status, health expenditures (OOP & Medicare & Medicaid)
DeNardi et al: Results

- New formulation may explain retirement-saving puzzle: see LSS & Fig 7

- Just about all groups benefit from Medicaid, though participation rates much lower at high income levels: e.g., Fig 6
Figure 7: Median net worth by cohort and PI quintile: data (solid lines) and model (dashed lines).
Figure 6: Medicaid recipiency by cohort and PI quintile: data (solid lines) and model (dashed lines).
“Long-Term Care Insurance, Annuities, and the Under-Insurance Puzzle”
John Ameriks, Joseph Briggs, Andrew Caplin, Matthew Shapiro, Christopher Tonetti

- Numerical analysis of model & estimation

- Special data from Vanguard: 9000 clients, 55+, accounts $10k-5mil — augmented with 3 web-based surveys

- “Strategic Survey Questions” and “Stated Demand Questions:” heterogeneous preference parameters (6) in model; want to know whether lack of use of various financial products is due “quality” of available options
Caplin et al: Results

(i) Formulation allows parameter heterogeneity

- Seems quantitatively large — Table 7
- Statistically significant?
- How extensive are correlations?
- SSQ data reliable?
Marginal Distribution of Parameters

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<th></th>
<th>$\sigma$</th>
<th>$\theta_{ADL}$</th>
<th>$\kappa_{ADL}$</th>
<th>$\theta_{beq}$</th>
<th>$\kappa_{beq}$</th>
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| Median Standard Errors | .13 | .38 | 10.71 | .82 | 18.44 | .35 |

Ameriks, et.al 2015 | 5.85 | 1.57 | -45.65 | 0.59 | 7.88 | 85.11 |

Table 7: **Estimated Parameter Distributions**: The marginal distributions of each parameter are presented in the top panel table above. Note that each column is the marginal distribution of the specified parameter, and there is no relationship between parameters in rows. The next line of the top panel presents the median standard error for each parameter, and the final line presents the parameters estimated from a similar model with homogeneous preferences. The bottom panel presents the correlation of estimates for each parameter.
(ii) Analysis of demand for long-term care — Fig 5

- Method of supply of care potentially interesting: family & relatives, care at home, assisted living ...

- Asymmetric information potentially important? What does the data show? Statistical significance?

- Possible remedies: Revelation principle & incentive compatibility constraints

- What is the scope of the problem with long-term care?
Figure 5: Fraction of Population Owning LTCI: This figure presents various measures of the fraction of the population with positive LTCI ownership. Column 1 is actual holdings of a private LTCI in the sample. Column 2 is stated ADLI demand. Column 3 is the union of private ownership and stated demand. Column 4 is model predicted ADLI demand.
Caplin et al: Results (cont.)

(iii) Very low demand for annuities in data — including “stated demand” — relative to model — see Fig 6

However, “As Ameriks, Briggs, Caplin, Shapiro, and Tonetti (2015) show, precautionary motives related to long-term care can explain lack of interest in annuities in the presence of a 10 percent load, but only for those singles with wealth below $400,000 and retirement income below about $50,000.” [p.30]
Figure 6: **Fraction of Population Owning Private Annuities**: This figure presents various measures of the fraction of the population with positive annuity ownership. Column 1 is actual holdings of a private annuities in the sample. Column 2 is stated demand. Column 3 is the union of private ownership and stated demand. Column 4 is model predicted demand.