Presentation and Discussion for:

Do You Need Less Money in Retirement?

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Federal Reserve Board

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The Question

• Why does household consumption seem to take a one-time drop at retirement?
  • Data for many countries shows clear drop
  • Battistin, Brugiavini, Rettore, Weber (2009) find 9.8% for Italy using regression discontinuity

• Finding seems inconsistent with lifecycle intertemporal consumption smoothing
  • No reason for consumption to respond to predictable changes in income
Potential Answers

• Behavioral mistakes, myopia
  • Berheim, Skinner, Weinberg (2001)

• Retirement is associated (on average) with negative shocks to lifetime income
  • Banks, Blundell, Tanner (1998)
  • Plausible, but social insurance/replacement key

• Spending and consumption are not the same
  • Aguiar and Hurst (2013)
  • Work expenses fall, home production rises
This Paper

• Sort out potential explanations by ASKING SHIW respondents how much they “need to live comfortably but not in luxury”
  • If actual drop ≈ “needed” drop => consumption smoothing operative, not behavioral bias/shocks

• Problem is of course endogeneity (as with spending drop at retirement itself)

• Innovation: Use same regression discontinuity as in Battistin et al (2009), which is based on exogenous variation in pension eligibility
Steps

• Show “money needed” ≈ actual spending
• Show fraction retired jumps discontinuously at retirement eligibility threshold
• Reproduce Battistin et al (2009) consumption drop results for this sample
• Show same results hold for “money needed”
"Money Needed" $\approx$ Actual Spending

| Table 1. ISTAT relative poverty lines and money needed (euros, current prices). |
|---------------------------------|--------|--------|--------|--------|--------|--------|
| Average total expenditure (ISTAT) for a two-member households | 1839.96 | 1940.68 | 1999.34 | 1984.92 | 1981.76 | 2083.82 |
| Money needed among two-member households (SD) | 1903.24 (759.28) | 1935.22 (729.26) | 1946.89 (732.98) | 2057.67 (782.55) | 2154.88 (748.73) | 2281.47 (789.15) |
| Mean (SD) | | | | | | |
Fraction Retired Jumps at Eligibility

Figure 1. Proportion of retired male heads by time to/since eligibility, 2004-2014
Fraction Retired Jumps at Eligibility (by Year)

Figure 2. Proportion of retired male heads by time to/since eligibility and survey year
## Consumption Falls at Retirement

**Table 4 - The effect of retirement on non-durable consumption (2004-2010). Grouped data**

<table>
<thead>
<tr>
<th>Dep. Var.</th>
<th>(3) OLS</th>
<th>(4) IV</th>
<th>(3) OLS</th>
<th>(4) IV</th>
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<td>log_cons</td>
<td>log_eqcons</td>
<td>log_eqcons</td>
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<tr>
<td>job_pensioner</td>
<td>-0.116** (0.050)</td>
<td>-0.098* (0.052)</td>
<td>-0.050 (0.050)</td>
<td>-0.047 (0.050)</td>
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<tr>
<td>S</td>
<td>-0.002 (0.003)</td>
<td>-0.003 (0.003)</td>
<td>0.003 (0.003)</td>
<td>0.003 (0.003)</td>
</tr>
<tr>
<td>S^2/10</td>
<td>-0.001*** (0.000)</td>
<td>-0.001*** (0.000)</td>
<td>-0.001*** (0.000)</td>
<td>-0.001*** (0.000)</td>
</tr>
</tbody>
</table>

First stage

| Eligible | 0.415*** (0.023) | 0.415*** (0.023) |

F-statistic

| 217.02 | 217.02 |

Notes: Instrumental variables estimates based on 80 cell means. The estimated equation relates expenditure to a dummy for retirement, controlling from time to/from eligibility and survey year dummies. Retirement is instrumented by eligibility status. Standard errors are robust to heteroskedasticity. S ∈ [-10;10], S=0 is excluded. *** p<0.01, ** p<0.05, * p<0.1
### Table 6. The effect of retirement on money needed (2004-2014). Grouped data

<table>
<thead>
<tr>
<th>Dep. Var.</th>
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<tr>
<td>job_pensioner</td>
<td>-0.094**</td>
<td>-0.052</td>
<td>-0.099**</td>
<td>-0.069*</td>
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<td>(0.036)</td>
<td>(0.035)</td>
<td>(0.042)</td>
<td>(0.039)</td>
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<tr>
<td>S</td>
<td>-0.005**</td>
<td>0.002</td>
<td>-0.005*</td>
<td>0.003</td>
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<td>(0.001)</td>
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</table>

**First stage**

<table>
<thead>
<tr>
<th></th>
<th>Eligible</th>
<th>Eligible</th>
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<tbody>
<tr>
<td></td>
<td>0.400***</td>
<td>0.400***</td>
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<tr>
<td></td>
<td>(0.022)</td>
<td>(0.022)</td>
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</tbody>
</table>

**F-statistic**

212.45  
212.45

Notes: Instrumental variables estimates based on 120 cell means. The estimated equation relates subjective poverty line to a dummy for retirement, controlling from time to/from eligibility and survey year dummies. Retirement is instrumented by eligibility status. The equivalence scale used is the square root of household size. Standard errors are robust to heteroskedasticity. S ∈ [-10;10], S=0 is excluded. *** p<0.01, ** p<0.05, * p<0.1.
Results Seem Very Robust

- Instrument makes a lot of sense, and identification strategy test => households just above $S=0$ look like those just below

- Lots of sensitivity tests and alternative specifications come to same basic conclusion
  - Narrower and wider band around $S=0$
  - Grouped vs household-level (with controls)
Concerns? Maybe one…

• As in earlier paper, the equivalence-adjusted consumption drop smaller and not significant
  • Suggests household composition matters

• Interestingly, equivalence-adjusted “money needed” decline is closer to unadjusted decline and statistically significant

• The fact that coefficient magnitude changes seems more important than precision per se
Making Use of the Panel?

- SHIW is a panel, this paper (and Battistin et al 2009) use the data as a series of cross-sections because of specific identification strategy
- Might be interesting to look at within-person consumption and “money needed” patterns around retirement eligibility
  - Does “money needed” answer lead consumption?
  - Are any other variables (household composition, health) correlated with changes in either?
More Background on Italian System?

• Pension eligibility used to identify whether there is a discontinuous jump in MU(c) at retirement
  • What is replacement rate in Italy?
  • Is retirement at eligibility age PV(benefit) maximum?

• How has eligibility evolved? Just the eligibility age that changed, or a shift in age-benefit profile?

• What do trends in consumption and labor supply around retirement eligibility tell us about how people adjust to pension benefit changes?
Policy Takeaways?

• Key issue (to me) is public pension design
  • Most macro models consider tax and transfer effects on labor supply, measure welfare losses
  • Agents in model would not choose public pension
  • Welfare gains of pensions maybe through market incompleteness, not captured in macro models

• Showing that consumption (and labor supply) adjust smoothly shifts focus to fairness of public pensions across and within generations
Thanks!

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