Consumer Behavior at Low and Negative Interest Rates: Micro Evidence for a Savings’ Reversal

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Transmission channel of interest rate change

**Question:** How do savings react to an interest rate change?

- real vs nominal channel of interest rate transmission
- non-linearity in response in a low vs high nominal rate environment

**Methodology:**

- Pseudo-panel of cohorts from 19 euro area countries (age, education, country, gender) for savings and cross-country variation of deposit rates
Pseudo-panel regressions with F-testing

- Unrestricted regression: proportion of savers on nominal deposit rates, inflation expectations and interaction dummies for nominal interest rate brackets (1)

- F-test with restricted regressions:
  - Nominal vs real: (1) vs proportion of savers on real interest rates only
  - Non-linearity: (1) vs proportion of savers on nominal rates and inflation expectation (without dummies)
Key take-aways

1. Households think in nominal terms: nominal rates matter more than inflation expectations

2. Non-linearity of interest rate transmission: positive effect on savings of interest rates when nominal interest rates are high, decreasing with the level of rates, with a sign reversal at low interest rates
What drives the non-linear response?

- Income effect starts to dominate the substitution effect (target wealth, retirement motives)

- The deposit rate shock contains both information about monetary policy and the state of the economy: information effect starts to dominate the monetary policy shock

- Substitution from consumption to capital formation: households save more and take out a mortgage because rates are low
  - Testable with the question how likely are you to buy a house?
Steady decline of savings’ response

- At high nominal interest, savings’ response is positive, but decreases steadily (which still holds when dropping the group without primary education)

- Some brackets have more interest rate volatility: response is consistent with rational inattention theory (higher variance implies a need to pay more attention)

<table>
<thead>
<tr>
<th>$R_{EA}$ bracket</th>
<th>$R_{EA}$ st dev.</th>
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<tbody>
<tr>
<td>&lt;0.25</td>
<td>.0261</td>
</tr>
<tr>
<td>0.25-0.5</td>
<td>.0566</td>
</tr>
<tr>
<td>0.5-1</td>
<td>.1481</td>
</tr>
<tr>
<td>1-2</td>
<td>.2534</td>
</tr>
<tr>
<td>2-3</td>
<td>.2970</td>
</tr>
<tr>
<td>3-4</td>
<td>.3322</td>
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<tr>
<td>&gt;4</td>
<td>.2185</td>
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- Some brackets could also have more uncertainty (e.g., ZLB), hence a lower response?
Response of low educational attainment group

- Low educational attainment groups, with low financial literacy do not keep track of rates optimally, or do not understand communication.

- Definition of saving variable: $S_{n,t} = \begin{cases} 
1 & \text{if very likely or fairly likely} \\
0 & \text{if not likely or not at all or don't know}
\end{cases}$

- Could “don’t know” rather capture uncertainty? If miscoded as no saving, could it drive the negative answer? (if more uncertainty at low rate)

- Lower educated households tend to be more uncertain, are they more likely to reply “don’t know”?

- Similar results once dropping the low income category?
Uncertainty measurement

- Disagreement is a strong proxy for uncertainty in times of turbulences but high frequency smaller movements are not strongly correlated (Boero et al. 2014)

- Disagreement vs uncertainty: households could all disagree but be certain about their answers

- Measuring uncertainty through rounding in inflation response (Binder 2017, Manski and Molinari 2010): “rounding number suggest round interpretation”
Concluding remarks

▶ Excellent paper that investigates the non-linear effect of interest rate changes on consumers’ saving behavior

▶ Novel empirical methodology to provide micro-evidence on the household sides

▶ Results driven by the low educational attainment group emphasize the need for monetary policy to take into account heterogeneity/inequality

▶ It also emphasizes the need to enhance communication to the general public and financial literacy to avoid adverse effects of rate cuts
Thank you!