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

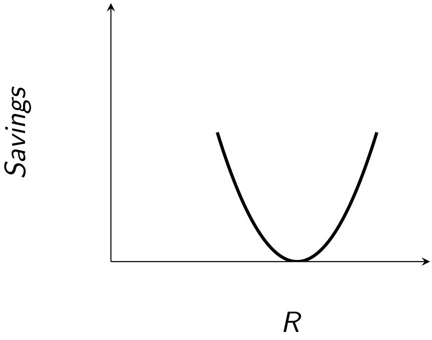
Pseudo-panel regressions with F-testing

- 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



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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)

R_{EA} bracket	R_{EA} st dev.
$<$0.25	.0261
0.25-0.5	.0566
0.5-1	.1481
1-2	.2534
2-3	.2970
3-4	.3322
$>$4	.2185

- 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:

$$S_{n,t} = \begin{cases} 1 & \text{if very likely or fairly likely} \\ 0 & \text{if not likely or not at all or } \textbf{don't know} \end{cases}$$

- 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!