Consumption Uncertainty and Precautionary Saving by D. Christelis, D. Georgarakos, T. Jappelli and M. van Rooij

Discussion by Effrosyni Adamopoulou (Bank of Italy)

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The opinions expressed in this discussion are those of the discussant and do not necessarily reflect the views of the Bank of Italy.

Aim of the paper

- Empirical tests of precautionary saving using the Euler equation.

1. Expected consumption growth and consumption risk is not observed⇒use their observed counterparts: realized consumption growth and consumption risk at t+1 (e.g. Bertola et al., 2005).

2. Elicit subjective expectations on consumption growth and its variability to estimate the Euler equation.

First impression

- Important contribution in the literature that tries to elicit subjective expectations.
- Fascinating and difficult task.
- New version is well-written and complete.
- Newly avalaible data (January 2016?) may enrich the paper.

Related literature

- Expected income growth and its variability (Guiso, Jappelli, and Terlizzese, 1992; Jappelli and Pistaferri, 2000).
- Expected probability of unemployment (Guiso, Jappelli, and Pistaferri, 2002; Stephens, 2004).
- Expected inflation growth and its variability (Bruine de Bruin, Manski, Topa, and van der Klaauw, 2011).
- Expected consumption growth (Crump, Eusepi, Tambalotti, Topa, 2015).

The question on expected consumption growth

- Think about your household spending on all goods and services in the coming 12 months, do you think it will be higher, about the same, or lower than your current spending?
- How much (percentage-wise) do you expect that your household spending on all goods and services is [higher/lower] 12 months from now?
    - <5%, 5-10%, 11-15%, 16-20%, 21-25%, 26-30%, >30%.

The question on expected consumption variability

Thinking ahead about your household spending during the next 12 months, what do you expect to be the value of such future spending in a typical month? Please provide the future monthly expenditure.

(a)   Please give the minimum value: €…. (y_m)

(b)   Please give the maximum value: €…. (y_M)

(c)   What is the probability that the household spending value is greater than X ? (where X is automatically computed as (y_m+ y_M)/2 and appears to the respondent's screen)

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

Absolutely no chance that household spending will be greater than X

Absolutely certain that household spending will be greater than X

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 4. Overall: No idea!

Difficulty of the questions

- Attanasio et al. (2015), Cunha et al. (2015) elicit maternal beliefs about the technology of skill formation.
- ⇒Consumption expectations may not be that difficult after all.
- Crucial: appropriate survey design.

An early effort goes back to 2000

- An effort to elicit subjective expectations about future consumption was actually made in 2000$\Rightarrow$ Bank of Italy's SHIW.

- Q: "You told me earlier that the average monthly expenditure of your household for all kinds of consumption during 2000 was... In 2001 how much do you think your household will spend on average per month for all consumption? And in 2002?"

- Point estimates.

- No question about expected consumption variability.

How did the answers look like?
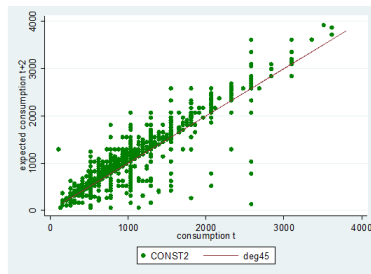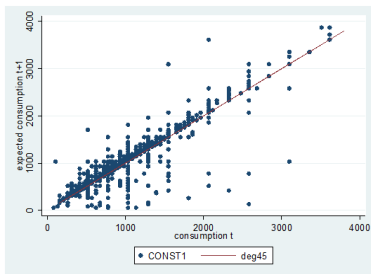
Variable	Mean (in €)	Observations
c_t	1.042	3, 933
$E(c_{t+1})$	1.162	3, 018
$E(c_{t+2})$	1.219	2, 521

General evaluation of the SHIW question

- A lot of missing values (I do not know/I do not want to answer).
- The quality of the answers to the questions that followed and were otherwise standard had deteriorated.

Expectations versus realizations

- Panel component (half of the sample) was interviewed again in 2002. $\Rightarrow$ Possible to compare expected to realized consumption.
- Did households predict well?
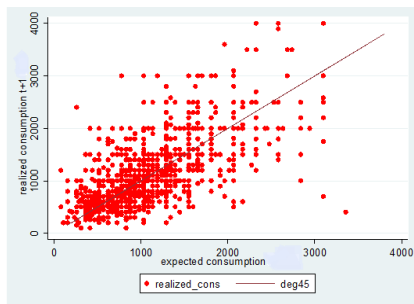
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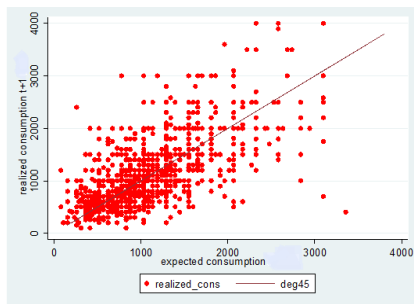
- $corr(c_{t+1}, E(c_{t+1})) = 0.38$
- $corr(c_{t+1}, c_t)) = 0.66$

This paper

- The authors do not ask for point estimates of expected consumption.
    - Higher than now, about the same, lower than now
    - Brackets <5%, 5-10%, ..., 26-30%, >30%.
    - ⇒ easier to answer.
- However, expected variabililty of consumption may still be a difficult question.

Education and financial literacy

- No educational gradient in answering income expectations (Guiso, Jappelli, and Terlizzese, 1992).
- By contrast, education is known to affect the answers to inflation expectations (Bruine de Bruin, Manski, Topa, and van der Klaauw, 2011).
- What about consumption expectations? Could you control for education?
- Missing values? Does education matter? How do you treat those who say "I do not know"?
- Panel survey$\Rightarrow$ Do you observe learning in responses?

To instrument or not to instrument

- Bertola, Guiso, Pistaferri (2005) do not observe expected consumption variability.
- $\Rightarrow$they use realized consumption variability $t+1$ and instrument it with expected income variability $t+1$.
- Validity of the instrument: income uncertainty should not affect consumption growth after controlling for the latter's conditional volatility (a sufficient statistic for the relevant risk in the absence of liquidity constraints).
- Need to instrument even when using expectations instead of realizations as there is the possibility that unobservable variables in the error term are correlated with expected consumption risk (?)
- $\Rightarrow$Hopefully no.

To instrument or not to instrument

- Why is expected income variability a weak instrument of expected consumption variability?
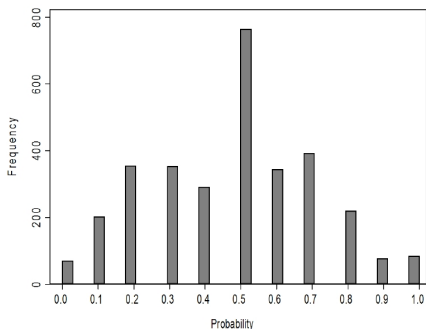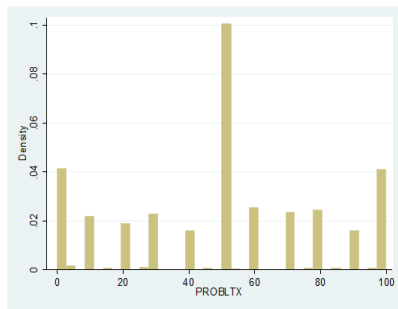
expected consumption variability   expected income variability

Possible further step

- January 2016⇒ Realized consumption will be observed (panel).
- Replicate Bertola et al. (2005) that use **realized** consumption and **instrument** variability of consumption with expected variability of income⇒ estimate the prudence parameter.
- Compare it with your estimate from the Robust OLS specification where you use **expected** variability of consumption and **no instrument**.