
Individual Preferences over Risk and Portfolio Choice

A Discussion of von Gaudecker, van Soest, Wengström
at the 2013 HFCN Conference, Frankfurt, 17-18 October

Michael Haliassos
Goethe University Frankfurt, CFS, CEPR, NETSPAR

The authors' (likely) objective

- Estimate the distribution of risk preferences in the economy
- Examine how closely the predictions of the model are to Dutch DNB data
- Do both in the context of the Barberis-Huang-Thaler model of narrow framing in portfolio choice
- Exploit a unique feature of Dutch data:
 - Vast info on portfolios in the DNB data set, including identity of assets
 - Gambling experiments with the same subjects in the CenterData panel
 - Small gambles
 - Subjects are presented with pictures of the lotteries and are asked to choose
 - Quality control: consistent people are given more tasks
- Premise: this additional information from gambles will help us sharpen our estimates of the preference parameters and get closer to the data

Why narrow framing?

- Barberis-Huang-Thaler (AER 2006) argued that narrow framing could provide a preference-based explanation to the stockholding puzzle:
 - Why such limited participation in the face of an equity premium and small covariance of consumption with stock returns?
- **Step 1:** Realize that EU does not yield zero stockholding because of “second order risk aversion”
 - For small risks, the insurance premium is proportional to σ^2 . As σ goes to 0, the insurance premium goes to zero faster, making investors locally risk neutral: they just go for the equity premium!
- **Step 2:** Introduce first-order risk aversion
 - e.g. through non-differentiability in the utility function / kink in the indifference curves

First-order Risk Aversion

- Adopt recursive utility of Epstein-Zin:

$$(16) \quad V_t = W\left(C_t, \mu(\tilde{V}_{t+1}) + b_0 E_t\left(\sum_i \bar{v}(\tilde{G}_{i,t+1})\right)\right),$$

where

$$(17) \quad W(C, y) = ((1 - \beta)C^\rho + \beta y^\rho)^{1/\rho},$$

$$0 \neq \rho < 1,$$

$$(18) \quad \begin{aligned} (4) \quad & \mu(\tilde{V})^{1-\gamma} = E(\tilde{V}^{1-\gamma}) + (\lambda - 1) \\ & \times E((\tilde{V}^{1-\gamma} - \mu(\tilde{V})^{1-\gamma})1(\tilde{V} < \mu(\tilde{V}))), \end{aligned}$$

$$0 < \gamma \neq 1, \quad \lambda > 1.$$

- BHT illustrate a kink through Gul's disappointment aversion preferences, where the agent experiences additional disutility because he experiences a loss.
- Problem: What is a "loss"?
- In fact, range of alternatives exists:
 - adopt linear operators other than the expectations operator for the certainty equivalent of next period value: allow for ranking of outcomes (see Haliassos and Hassapis, EJ 2001)
 - Yaari (1987) "Dual Theory" formulation: zero risk aversion, piecewise linear
 - Quiggin (1982) "Rank Dependent Utility": curved indifference curves
- Regardless of this: A kink at zero stockholding could be observed in the absence of background risks, but in their presence, kink is not at zero in general: use stocks to hedge other risks (BHT, HH)

- **Step 3:** Introduce narrow framing (Barberis-Huang JEDC)
 1. Some risks are simply not pooled/considered together with others
 2. “Losses” matter

$$V_t = W\left(C_t, \mu(\tilde{V}_{t+1}) + b_0 E_t\left(\sum_i \bar{v}(\tilde{G}_{i,t+1})\right)\right)$$
$$\bar{v}(x) = \begin{cases} x & \text{for } x \geq 0 \\ \lambda x & \text{for } x < 0, \end{cases} \quad \lambda > 1,$$

- (Our authors work with certainty equivalents of losses as opposed to expected losses)
- With narrow framing you need to define **“losses”** AND **which gambles** are narrowly framed
- Losses:
 - BHT define them relative to riskless rate
 - Our authors in a better position than BH, BHT!
- Which gambles: arbitrary
 - Why only small-stake gambles?

- **Step 4:** Look at portfolios households pick, assuming that all those risks are not narrowly framed:
 - BHT would probably disagree: why not stocks or other portfolio components?
 - A robustness exercise?
- **Step 5:** Look at experimental gambles, on the assumption that these are narrowly framed
 - Maybe not bad assumption if you convince them to care enough about winning; even better if they are “unreal”
 - Is it clear that sophisticated people do not reverse themselves in the lottery rankings?
- The authors also need to assume that this intro of gambles does not affect consumption and portfolios.
 - In general not true, but suitable for experiments!
- Looking forward to the rest of the paper when ready!