Discussion of "Information Aversion" by M. Andries and V. Haddad

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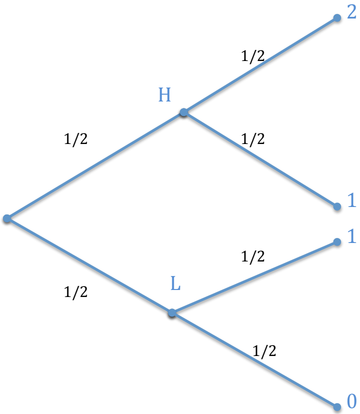
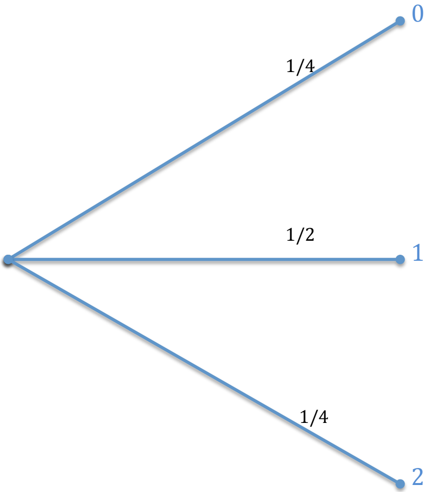
Lotteries

- Compare two lotteries, same outcomes, different information structure
- Lottery 1: more info



Compounded lottery

- Lottery 2: less info



Experiments

- Experimental evidence: Gneezy and Potters (1997), Bellemare, Krause, Kroger, Zhang (2005), Haigh and List (2005)
- People perceive the first lottery as more risky
- Loss aversion can explain this behavior
- Story goes back to Benartzi and Thaler (1995) who try to explain equity premium puzzle with loss aversion and notice that it matters the frequency at which agents compute gains and losses

Loss aversion

- Dynamic decision making with loss aversion

$$\mu_L = \frac{\frac{1}{2}\cdot 1 + \frac{1}{2}\cdot 0 + \theta\frac{1}{2}\cdot 0}{1+\theta\cdot\frac{1}{2}}$$

(since $0 < \mu_L < 1$)

- More weight on disappointing outcome
- At date 0

$$\mu = \frac{\frac{1}{2}\cdot \mu_H + \frac{1}{2}\cdot \mu_L + \theta\frac{1}{2}\cdot \mu_L}{1+\theta\cdot\frac{1}{2}}$$

- With less info

$$\mu = \frac{\frac{1}{4}\cdot 2 + \frac{1}{2}\cdot 1 + \frac{1}{4}\cdot 0 + \theta\frac{1}{4}\cdot 0}{1+\theta\cdot\frac{1}{4}}$$

because only disappointing outcome is 0

$$0 < \mu < 1 < 2$$

Play with preferences

- Suppose you hate a "big" disappointment
- That is if outcome is less than γ of expected outcome ($\gamma < 1$)

$$\mu\left(s^t\right) = \frac{E\left[\mu\left(s^{t+1}\right)|s^t\right] + \theta \int_{\mu(s^{t+1}) \le \gamma\mu(s^t)} \mu\left(s^{t+1}\right) dF\left(s^{t+1}|s^t\right)}{1 + \theta \int_{\mu(s^{t+1}) \le \gamma\mu(s^t)} dF\left(s^{t+1}|s^t\right)}$$

- Then it's possible to construct examples in which you prefer sequential resolution of uncertainty

Decision theory

- Gul (1991) proposes disappointment aversion
- Palacios-Huerta (1999) notices that disappointment aversion leads to a dislike sequential resolution of uncertainty
- NCI: Negative certainty independence
- If A is a degenerate lottery and $B \succ A$ then

$$\lambda \cdot B + (1 - \lambda)\, C \succ \lambda \cdot A + (1 - \lambda)\, C$$

- Theorem (Dillenberger, 2010): NCI is equivalent to a preference for one-shot resolution of uncertainty

Demand for information

- Existing applications take as given the information structure and ask how it affects the demand for risk
- This paper explores applications in which central issue is choice of the information structure
- In particular, frequency of observation
- Show parallels and differences with inattention/costly information models

Consumption/saving model

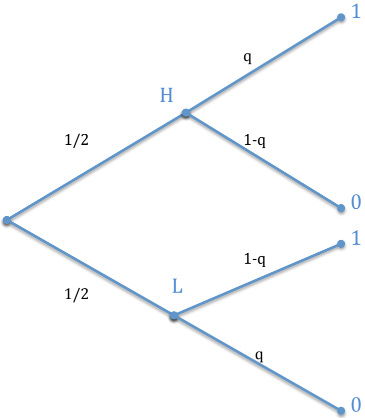
- Continuous time model, investment in safe and risky asset
- Consumers choose to re-optimize at discrete intervals
- Because observing risky asset continuously would be too costly in terms of disappointment
- Optimal interval T^*: marginal cost is to forgo higher return on risky asset, marginal benefit is to reduce disappointment about losses

Comparative statics

- Higher variance of the risky asset
- Opportunity cost of keeping funds in riskless asset is lower
- Marginal benefit of reducing disappointment is higher
- So T^* increases
- This is one of the main predictions... but is also main prediction of costly information model

Information aversion $\neq$ information costs

- The cost of additional disappointment is highest if you learn something but not a lot in intermediate period



Information aversion $\neq$ information costs

- If q is $1/2$ the signal is uninformative, no disappointment cost
- If q is 1 the signal is perfectly informative, no disappointment cost
- Non-monotone response to q
    - High q, acquire info, respond to info
    - Intermediate q no response to info
    - Low q, acquire info, respond to info

Comments

- Beautiful exploration of trade off between information acquisition and disappointment
- It would be nice to have some comparative statics in which different predictions with costly info are borne out
- I would like to understant better why time consistency holds