



Behavioral and Experimental Economics

ELICITING RISK ATTITUDES: LAB SESSION

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Menu

- ▶ A risk elicitation session
- ▶ A look at the raw data
- ▶ Data cleaning (pre-coded)
- ▶ **choices**: a look at your results
- ▶ Translating data to the r parameter (pre-coded)
- ▶ r : a look at your results

Let's play!

The tasks you ran



Questionnaires: SOEP

How likely are you to take risks in general, on a scale from 0 (not taking any risks) to 10 (taking many risks)?



Questionnaires: DOSPERT

Domain Specific Risk Taking Scale

- ▶ 6 domains: investing, gambling, health/safety, recreational, ethical, and social
- ▶ 1 to 7 scale: *how likely are you to engage in X?*

Examples:

- ▶ Riding a motorcycle without a helmet.
- ▶ Engaging in unprotected sex.
- ▶ Investing 10% of your annual income in a moderate growth diversified fund.



RETs, I: Holt and Laury

Ten binary lottery choices – risk attitude as switching point

	Option A				Option B			
1	1/10	4 €	9/10	3.2 €	1/10	7.7 €	9/10	0.2 €
2	2/10	4 €	8/10	3.2 €	2/10	7.7 €	8/10	0.2 €
3	3/10	4 €	7/10	3.2 €	3/10	7.7 €	7/10	0.2 €
4	4/10	4 €	6/10	3.2 €	4/10	7.7 €	6/10	0.2 €
5	5/10	4 €	5/10	3.2 €	5/10	7.7 €	5/10	0.2 €
6	6/10	4 €	4/10	3.2 €	6/10	7.7 €	4/10	0.2 €
7	7/10	4 €	3/10	3.2 €	7/10	7.7 €	3/10	0.2 €
8	8/10	4 €	2/10	3.2 €	8/10	7.7 €	2/10	0.2 €
9	9/10	4 €	1/10	3.2 €	9/10	7.7 €	1/10	0.2 €
10	10/10	4 €	0/10	3.2 €	10/10	7.7 €	0/10	0.2 €

Risk neutral should switch after 5 choices. > 5 safe \rightarrow risk averse



RETs, II: Binswanger

A single choice among 50-50 lotteries – chosen lottery is played.

	Event	Probability	Outcome
1	A	50%	4 €
	B	50%	4 €
2	A	50%	6 €
	B	50%	3 €
3	A	50%	8 €
	B	50%	2 €
4	A	50%	10 €
	B	50%	1 €
5	A	50%	12 €
	B	50%	0 €

Risk neutral should choose lottery 5. Extreme risk aversion to choose lottery 1.



RETs,IV: Investment game

Endowment X

How much would you like to invest?

Safe account
1 : 1

Risky investment
1 : {1/2: 2.5; 1/2: 0}

Risk-neutral should invest all, as $E(\text{risky}) = 1.25 > 1$.



RETs, VI: BRET

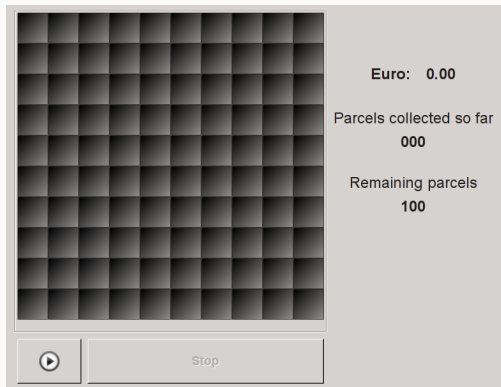
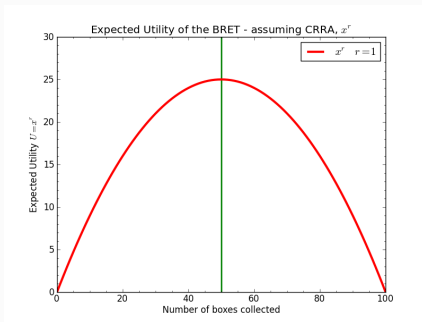


Figure: The BRET interface at the start of the experiment



BRET: solution for the expected value maximizer



The expected value is maximized at $k^* = 50$.

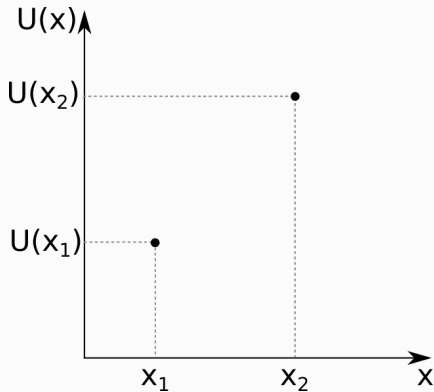
Assuming a power CRRA utility function x^r , the optimal stopping point is:

$$k^* = 100 \frac{r}{1+r}.$$

But how do we compare across methods?

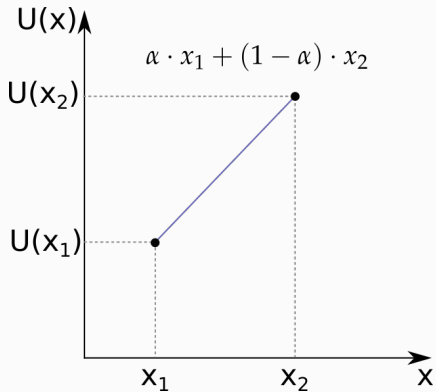


Risk: expected utility framework



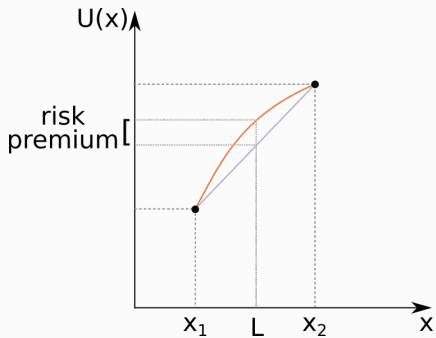


Risk: expected utility framework



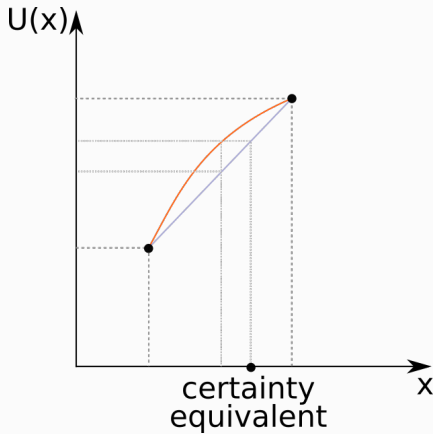


Risk: expected utility framework



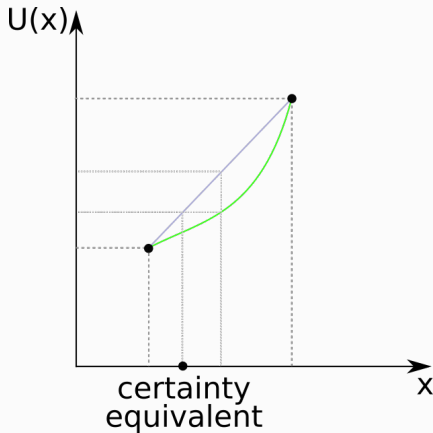


Risk: expected utility framework





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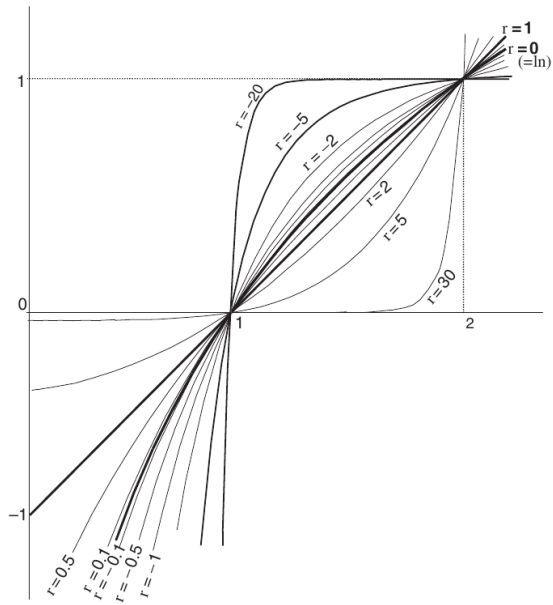




CRRA (à la Wakker)

$$u(x) = x^r$$

- ▶ simple
- ▶ captures risk aversion
- ▶ makes different tasks comparable

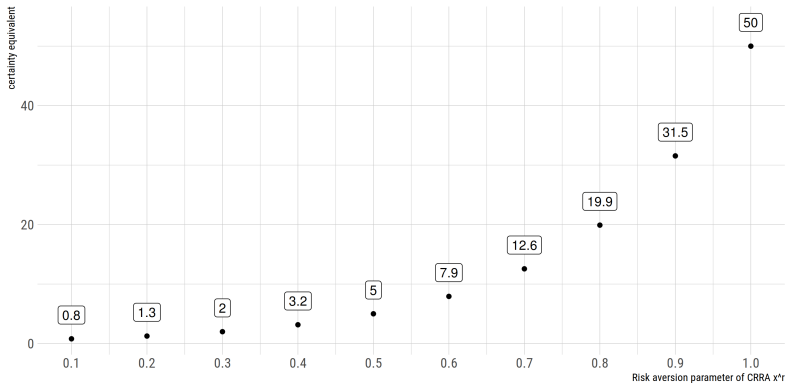




How big are these differences?

Certainty Equivalent of {0.5: 100; 0.5: 0} lottery

CRRR x^r





Mapping choices to r : risk levels

