

Emotional Economics: Some Next Steps

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Key Question

- ▶ What will be most productive way forward over next five years?
- ▶ What balance between three broad approaches:
 - ▶ Structured data characterized axiomatically
 - ▶ Non-standard data with production function model (e.g. the "happiness" literature)
 - ▶ Standard data (Becker and Rubinstein)
- ▶ What methods of gathering psychological data will be most useful?
 - ▶ Surveys
 - ▶ Choice-themed experiments
 - ▶ Non-standard choice-like data (words, looks, clicks)
 - ▶ Physiological and neurological data
- ▶ What role of emotions per se?
- ▶ What area of economic content?

Saliience

- ▶ A current project on "saliience" is suggestive of possible way forward
 - ▶ Zink et al [2003] and Matsumoto and Hikosaka [2009] report brain areas that respond more to rare or unusual events, regardless of whether these events are good or bad
 - ▶ CDGR find the same
- ▶ But no clarity on decision theoretic content of saliience
 - ▶ Unlikely past event, decision irrelevant?
 - ▶ Big impact on utility, decision irrelevant?
 - ▶ Crucial to drawing attention (expect understanding and scanning)?
 - ▶ Motivates action that breaks inertia (change in status quo decision)?
 - ▶ Alerts to need for new information (pay search costs)?

Saliency

- ▶ Mark Dean and I looking for experimental design to distinguish
- ▶ A box is equally likely at time 0 to contain \$10 and \$0 (allowing \$20 in place of \$10 half the time enriches)
- ▶ Decision at time 0: Subject names $X(0)$, WTP for content of box.
 - ▶ Will with probability $1/3$ be actualized with BDM mechanism for honest revelation.
- ▶ There are two more decision periods, 1 and 2. The difference is that these may be influenced by receipt of signals.
- ▶ There are 3 types of signal each equally likely.
 - ▶ Type NULL: No information in either period 1 or period 2.
 - ▶ Type U: No information in period 1, fully informative signal in period 2.
 - ▶ Type I: Period 1 signal fully informative.

Saliency

- ▶ The subject has three decisions to make after period 0.
 - ▶ The first is a new WTP $X(1)$ based on the period 1 signal.
 - ▶ The second is a choice of whether or not to pay (say) \$1 to see the second signal (not available with Null signal).
 - ▶ The final is a third choice of $X(2)$ WTP if the new signal was paid for.
- ▶ ONLY behavioral measurements are any change in WTP (should be trivial) and in information choice (should be trivial)
- ▶ KEY measurement is fMRI of "saliency" regions UPON RECEIPT OF SIGNAL 1 (which reveals full structure of signals).
- ▶ Note there is also a direct "value" shock that is not actionable, since there is an ordering in terms of the value of the signals: 10 for sure is best, then signal U, since retain ability to learn in period 2, then Null, then 0 for sure.
- ▶ Little point in axiomatics without some indicative evidence.

Search and Emotion

- ▶ Suppose salience spurs search
- ▶ Then can get understanding of what motivates desire to learn more
- ▶ There are then interesting questions concerning associated emotions
- ▶ Do these play a key role in motivating/ demotivating information search?
- ▶ How does this relate to preferences over the resolution of uncertainty ?
- ▶ Is not wanting to know identifiable in some way?

Search and Emotion

- ▶ A longstanding personal interest in how to incorporate survey data formally into choice models
- ▶ New surveys of time use that gather detailed dairies of daily activites
- ▶ Also affect questions associated with time use
- ▶ How did recent financial crash impact the time and the feelings associated with making financial decisions?
- ▶ Can one track impact of negative emotions in reducing search in important areas?

Search and Emotion

- ▶ Frans van Winden and collaborators have conducted experimental research concerning preferred time of resolution of uncertainty and relation to emotions
- ▶ They use personality and feeling measures in the experiments
- ▶ Can similar techniques be applied to pure search?
 - ▶ How reliable?
 - ▶ How important?
 - ▶ Do key emotion/decision types may not accord with prior psychological classifications?

Learning and Emotion

- ▶ Area of greatest personal interest: can the theory of learning be improved by understanding emotional content?
- ▶ My younger daughter will do math on the Ipad strictly because it is fun
- ▶ How does one spark curiosity and the desire to know?
- ▶ Library science model of search: Carol Kuhltau
- ▶ Any amount of Internet search data reveals what causes further search, what prevents
- ▶ Education theory is bizarrely under-researched
- ▶ We remain somewhat short of a complete contingent model of human capabilities!

Concluding Remarks

- ▶ We are still at the earliest stages of the adventure that is emotional economics
- ▶ Team formation would speed progress along path and raise profile of area
- ▶ My curiosity remains as high as ever
- ▶ I am so glad to find others who share this curiosity
- ▶ Thank you