

Rational Benefit Assessment for an Irrational World: Toward a Behavioral Transfer Test

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Presentation based on W. Kip Viscusi and Ted Gayer, “Rational Benefit Assessment for an Irrational World: Toward a Behavioral Transfer Test,” *Journal of Benefit-Cost Analysis*, 2016.

Overview

- Emergence of numerous behavioral failures
- Used to justify regulatory interventions
- Don't provide carte blanche to override consumer preferences
- Propose “behavioral transfer test”
- Propose using full information rational decisions as the reference point

Categories of Market Failures

- Kaldor-Hicks principle to maximize net benefits
- Consumer sovereignty and linkage to willingness to pay for benefits
- These are in conflict if consumers behave irrationally
- Behavioral failures now account for preponderance of some regulatory benefits
- Current void with respect to BCA guidance for behavioral economics

Benefits Transfer and Behavioral Transfer

- Behavioral anomalies in experiments and real decisions: health club memberships, cab driver effort, retirement savings, credit card usage, consumer inattention to shipping costs
- Applying results from behavioral study to policy context called “behavioral transfer”
- Counterpart of benefits transfer used for VSL and other benefits
- Benefits transfer discussed in OMB guidance and the UK Green Book
- Viscusi and Gentry, *JRU* (2015) and *JHE* (2016), assess behavioral transfer for VSL
- No economist would assume the demand elasticity for candy bars in a lab experiment pertained to all products

Behavioral Transfer Concepts

- Is the experiment reflective of actual market decisions?
- Differences in
 - frequencies of decisions
 - opportunities for learning
 - stakes
 - characteristics of decision makers
- Suggestive of possible presence of market failure but also empirical magnitude?
- Simulation examples also are not empirical evidence though sometimes treated as such
- Unlike benefits transfers based on market decisions, behavioral transfer often based on lab experiments
- Higher level of scrutiny is warranted

Behavioral Transfer Guidelines

- Is sample reflective of beliefs and preferences of groups affected by policy?
- Does behavioral context parallel policy situation?
- Do respondents fully understand what is being valued?
- Is metric \$ or happiness scale?
- Are responses consistent?
- Did respondents attend to survey task?

Application to WTA/WTP

- WTA/WTP ratio of 7.2 (mean—Horowitz and McConnell) and 3.3 (geometric mean—Tunçel and Hammitt)
- Despite embrace of behavioral results to boost benefits, no agency has proposed dividing VSL by factor of 3 to 7
- Applying behavioral transfer to VSL: WTA/WTP insights for labor market fatality risks
- Most pertinent behavioral transfer evidence is job changes with increase or decrease in risk, with no significant difference (Kniesner, Viscusi, and Ziliak, 2014)

Behavioral Transfer for Discounting

- Hyperbolic discounting in experiment and stated preference surveys
- Same discounting anomalies for all multi-period decisions such as appliances, smoking, marriage, career choice?
- Stakes differ
- Time horizons in decades not weeks or months
- What discount rate is rationality norm? 3%?

Judging Rationality

- Energy efficiency gap case study for appliances and cars
- DOE, EPA, DOT assume psychological biases undervalue long-term gains
- Mixed evidence on energy efficiency gap—heterogeneous preferences not homogenized engineering model, effort and time costs, preferences for other attributes
- 85–87% of total benefits of fuel economy mandates for DOT and EPA are purported benefits of overcoming irrationality

Judging Rationality Caveats

- “It is a conundrum from an economic perspective that large fuel economy savings have not been provided by automakers and purchased by consumers.”
- Similar conjectured failures that are implausible for corporate buyers of heavy-duty trucks
- Similar assertions drive justifications of regulations for incandescent light bulbs, clothes dryers, and room air conditioners
- Need to carefully scrutinize such claims of irrationality

Policy Evaluation Reference Point

- Fully informed, rational outcome as preferred policy reference point
- Should biased risk beliefs guide policy?
- Biases in risk beliefs such as underestimation of risks (GM ignition switch) and overestimation of risk (plane travel)
- Happyville parable—clean up real risks or larger imagined risks? We recommend real risks.
- No obvious alternative to rational decision model
- Availability heuristic—overestimation of recent salient risks, not a sensible basis for policy
- Ambiguity aversion—use mean risks with no ambiguity premium

Experienced Utility and Happiness Scales

- Experienced utility not same as what expected ex ante
- Not pertinent to largest benefits component, deaths
- Neoclassical models can accommodate misperceptions of ill health impacts, e.g. MS study by Sloan et al (1998)
- Various happiness scales: 0 to 10, 1 to 10, 1 to 7,
0–1 did you smile yesterday?
- How should we even think about these scales?

Deficiencies of Happiness Scales

- No reference point for rating—perfect health and life satisfaction?
- Ordinal scales with no quantitative significance
- Is 7 to 5 same as 4 to 2? Is 8 twice as good as 4? Are international comparisons as meaningful?
- No theoretical foundation or ability to deal with probabilistic outcomes since EU is rejected
- Too coarse for almost all policies— $1/25,000$ risk of death has value of \$360 using \$9 million VSL. Effect on happiness?
- Is policy impact permanent, as is death? Happiness is ephemeral.
- BCA requires common metric such as \$

Behavioral Transfer Tests for Happiness Scales

- Happiness ratings fail rationality tests such as effect of adverse health shocks and loss of non-wage income
- Critiques of contingent valuation by psychologists pertain to happiness studies
- Happiness literature falls short of criteria applied to stated preference studies
- Embedding effects for what happiness pertains to—
what they are valuing, what dimensions, what time frame
- Happiness scores are constructed preferences influenced by survey structure

Implications

- Less salient taxes raise money but create fewer effort distortions, providing behavioral rationale
- We oppose using less salient taxes to induce suboptimal consumer responses; reduces distortionary effects but disguises tax burden
- Fully informed voters are desirable. Finkelstein example of responses to paid tolls versus electronic.

Conclusion

- Behavioral failures don't provide open-ended benefit justification assuming complete irrationality
- Behavioral criteria should be as stringent as for other economic evidence
- Adopt behavioral transfer test criteria
- But use full information rational decisions as the normative reference point
- Our default is to respect consumer sovereignty

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