

Shaded Truth under Consequential Risk: Theory and Evidence from Discrete Choice Experiments

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Abstract

Stated-preference (SP) valuation is widely used in policy analysis, yet practitioners frequently observe respondents who state low or zero willingness to pay (WTP) and cite distrust of policy delivery as their reason. Standard practice classifies such responses as "protests" and either drops them or applies ad hoc corrections. This paper argues that these responses can instead be understood as rational: when respondents believe a survey is consequential but perceive that the policy may fail to deliver, they strategically shade their WTP downward.

The consequentiality framework of Vossler, Doyon, and Rondeau (2012, hereafter VDR) shows that when respondents believe their answers matter, truthful revelation is incentive compatible, largely resolving the hypothetical bias problem. But the standard framework bundles policy selection and benefit delivery. When respondents perceive that a policy may be selected and paid for yet fail to deliver its promised benefits, consequentiality makes the problem worse, not better: a consequential respondent who expects implementation failure states low WTP as an optimizing response, not as noise.

This paper formalizes the mechanism. We call the resulting framework "consequential risk." Building on VDR, we separate policy selection from benefit delivery by introducing an objective failure technology: conditional on selection and payment, the policy delivers the promised benefit with probability $1 - q$ and delivers no benefit with probability q . Respondents hold heterogeneous subjective beliefs about q . Under risk neutrality, the effective WTP is attenuated by $(1 - \hat{q})$, generating protest-like shading when perceived

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failure probability is high. The attenuation identity shows how failure beliefs shift the valuation object without requiring incentive-compatibility conditions to fail.

To recover the distribution of failure beliefs from observed choice data, we propose a joint design pairing a controlled experiment with a field survey. The controlled experiment delivers a payoff-isomorphic analog of the policy good under experimenter-assigned failure probabilities, identifying the full-delivery valuation distribution. The field survey identifies the distribution of attenuated valuations. The main identification result shows that the distribution of failure beliefs is nonparametrically identified via multiplicative deconvolution of the two WTP distributions, exploiting the Mellin transform factorization and the Hausdorff moment theorem for distributions on bounded support. When the key conditional independence assumption between beliefs and valuations is relaxed, the aggregate welfare gap between full-delivery and attenuated WTP remains point-identified, and an identified set for the belief distribution is characterized.

The paper also develops a design spectrum showing how identification degrades gracefully across designs of varying cost and control, from a single field survey (no identification of beliefs) through controlled survey variations and lab experiments with induced values to the full controlled experiment with real goods. When a deliverable analog of the policy good exists, the real-goods experiment dominates the induced-value experiment in identification power at comparable cost. For policies without a deliverable analog, weaker designs still yield informative partial identification results.

The framework yields an empirically implementable decomposition of stated valuations into full-delivery value and perceived failure beliefs. An empirical application is in progress.

Keywords: stated-preference valuation, consequentiality, protest responses, failure beliefs, multiplicative deconvolution, lab-field design

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