The Binarized Scoring Rule of Belief
Elicitation*

Tanjim Hossain  Ryo Okui
University of Toronto  Kyoto University

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Abstract

We introduce a simple method to construct an incentive compatible scoring rule to elicit an agent’s subjective belief about a random variable. The method does not depend on the exact form of the agent’s utility function. Independent of her risk-preference, it is optimal for her to report the value that minimizes the expected value of a loss function specified in the incentive scheme. Under this incentive scheme, the agent receives a fixed prize when her prediction error, defined by the relevant loss function, is smaller than a randomly generated value and earns nothing otherwise. Adjusting the loss function according to our goal for eliciting the agent’s beliefs, the scoring rule can be used in a rich assortment of situations. We run experiments using our scoring rule and the quadratic scoring rule and find that our scoring rule performs as well as the quadratic scoring rule. In fact, our scoring rule’s performance seems to improve as subjects become more familiar with it.

Keywords: Scoring rule, randomization, laboratory experiment, subjective belief, prediction.

JEL classification: C91, D81, D83, D84.

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