

Cooperative choice and its framing effect under threshold uncertainty in a provision point mechanism

Koji Kotani* Kenta Tanaka† Shunsuke Managi†

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Abstract

This paper explores how threshold uncertainty affects cooperative behaviors in each of public goods provision and public bads prevention. The following facts motivate our study. First, resource and environmental problems can be either framed as public bads prevention or public goods provision. Second, the occurrence of these problems is characterized by the existence of thresholds which is interchangeably represented by “nonconvexity,” “bifurcation,” “bi-stability,” or “catastrophes.” Third, the location of such a threshold is mostly unknown to observers. We employ a provision point mechanism with threshold uncertainty, and analyze the response of cooperative behaviors to uncertainty and to the framing in each type of social preferences categorized by a value orientation test. We find that aggregate framing effects are negligible, though response to the frame is opposite to the type of social preference in each subject. “Cooperative” subjects become more cooperative in negative frames than in positive frames, while “individualistic” subjects are less cooperative in negative frames than in positive ones. This implies that insignificance of the aggregate framing effect arises from the behavioral asymmetry. We also find the percentage of cooperative choices non-monotonically varies with the degree of threshold uncertainty, irrespective of framing and value orientation. More specifically, the degree of cooperation is highest in the intermediate level of threshold uncertainty, whereas it sharply drops as the uncertainty becomes sufficiently large.

Key Words: Cooperative choice, Framing effects, Threshold uncertainty, Provision point mechanism

JEL Classification: H41, D03

*Associate Professor, International Development Program, Graduate School of International Relations, International University of Japan, 777 Kokusai-cho, Minami-Uonuma, Niigata 949-7277, Japan (E-mail: kkotani@iuj.ac.jp, TEL: 81-25-779-1409, FAX: 81-25-779-1409). Koji Kotani is the corresponding author.

†Faculty of Business Administration, Yokohama National University, 79-4, Tokiwadai, Hodogaya-ku, Yokohama, 240-8501 Japan, (E-mail: managi@ynu.ac.jp (Shunsuke Managi), TEL: 81-45-339-3751, FAX: 81-45-339-3707).