Economic Experiments on Rice Production Rights Trading and Their Implications for Institutional Design

Hiroki SASAKI

Summary

This paper, based on experimental economics, studies institutional design for rice production rights trading since it has become a significant issue in Japanese agricultural economics. Specifically, following the methods used in studies on CO_2 emissions trading by Hizen and Saijo (2001) and Hizen et al. (2001), experiments under conditions modified to reflect the case of rice production rights trading are conducted.

Two main implications are obtained from the experiments. First, rice production rights trading will not lead to non-compliance, with respect to production controls. It is found that most participants uphold their production target level if there is a penalty for non-compliance. However, there is the possibility that aggressive trading will not occur due to prevalent fear of excess reduction in supply regions. To handle this problem, policymakers should consider the "banking system". Banking, in this context, refers to a mechanism to carry-over excess reduction from one commitment period to the next.

Second, three institutions for trading are compared: bilateral trading, English auction, and double auction. In an English auction, starting from an initial price set by the auctioneer, bidders outbid each other until no bidder bids more than the current price, with the highest bidder taking the item. On the other hand, in a double auction, all the participants can buy and sell. If price stability is used as a criterion of judgment, the experiments show that the double auction system is preferable. However, given the importance of widely distributed information for a double auction, it would be necessary to develop tools and facilities to provide quickly information about ask, bids, and contracted prices.