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NEW METHODOLOGIES FOR COMMODITY PROMOTION ECONOMICS

PROCEEDINGS FROM THE NEC-63 CONFERENCE

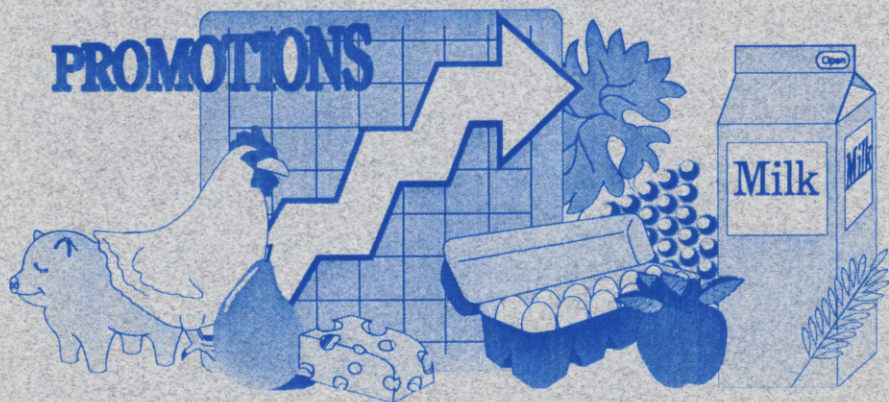
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Application of Experimental Economics to Problems in Commodity Promotion (review)

Harry M. Kaiser

The purpose of Robert Nelson's paper was to give an overview of experimental economics, a technique that has not been used in commodity promotion research to date. Nelson also demonstrated how this technique could be used to examine the impacts of free-riding should mandatory commodity promotion programs become voluntary in the future. Since I am a novice in experimental economics, the reader of this discussion paper is cautioned to take my comments with a grain of salt due to my lack of expertise in this area. In this discussion, I briefly review the highlights of Nelson's paper and offer several comments of the use of experimental economics in commodity promotion research.

Nelson began his paper by stating that experimental economics has not been applied to commodity promotion research thus far, and consequently it is a fertile area for investigation. This is certainly true, but I would add that most of the traditional areas in agricultural marketing and policy have also not used this approach very much. Thus, there are potentially many applications for this technique in general.

I enjoyed reading Nelson's informative overview. He did a good job of explaining two important dimensions of an experiment narrowed down from the experimental community's lexicon: institutional complexity and environmental complexity. Institutions refer to the "rules governing economic interactions," while environ-

ment refers to structural characteristics regarding the economic setting. Similar to other applications, the classification of institutions in commodity promotion problems should be of central importance. For example, some of the institutional aspects critical in examining commodity promotion problems include whether the program is funded by money donated voluntarily or if contributing is mandatory, the length of time of authority for the program, whether or not (and to what extent) there is governmental oversight of the program, and how the checkoff system works--is it a fixed per unit charge? does it vary over time? In terms of institutional complexity, Nelson noted ranges in levels of complexity. He explained that the mandatory assessment mechanism, which is equivalent to an excise tax, was relatively low in complexity compared to modeling other institutional arrangements. Examples included a Dutch auction, where complexity was modest or decentralized negotiation between buyers and sellers connected by telephones where complexity was at its highest. However, Nelson added that voluntary assessments were far more complex institutions to examine, and thereby of greater interest to experimental economics. Given that there is certainly a possibility that commodity promotion programs could be forced back to voluntary checkoff programs in the future, this makes the use of experimental economics in studying problems such as free-riding more appealing.

The environment that the promotion program operates in is another important dimension of experimental economics and includes such factors as: number of producers affected, the degree of market power of producers, extent of information, and consumer responsiveness to advertising. Environments also vary in complexity, and could be as simple as a market with several buyers and sellers used to demonstrate a form of competition to students in the classroom, to

a far more complex experiment involving many market participants, varying forms of competition in the market, and government involvement. Defining the environmental aspects of the problem remains an essential part in experimental economics. As an analogy from econometrics, Nelson compared misspecifying the environment to omitting variables in a regression equation.

Another component of experimental economics that Nelson discussed was the use of "stress tests" to examine the robustness of a theory. Stress tests, in essence, test a theory by taking important variables outside the domain of their traditional or observed boundaries to ascertain whether the theory still holds under extreme conditions. One example cited was the work of Smith (1982) who tested Hyak's hypothesis of a competitive equilibrium existing even under conditions of less than perfect information. I agree with Nelson that stress tests should be conducted in more economic analyses than currently done because they provide useful information to the modeler on the validity and sensitivity of his or her model.

After presenting the primer on experimental economics, the remainder of Nelson's paper dealt with a potential application of this technique to commodity promotion. The application chosen was a public good experiment, which was an obvious candidate for an experimental approach. This was the most interesting part of the paper because it provided a general area where the experimental technique could be used in commodity promotion research.

As was already mentioned, it is possible that mandatory commodity promotion programs could revert back to voluntary programs for legal or other reasons. If so, then experimental economics could be useful in bettering our understanding of how various environ-

mental arrangements affect free-ridership and the benefits of commodity promotion when the programs are voluntary. Nelson provided several examples of "games" involving collective action of players where the participation by all resulted in everyone being better off, but with strong incentives not to participate. The results of these experiments are well-known to experimental economists. Nelson demonstrated that the outcomes of these games vary depending upon the institutional and environmental arrangements. For example, the outcome differed depending upon whether the game was only played once versus many times, whether collusion among the players was allowed or not, whether there was a money-back guarantee, and how many players there were. Of these factors, the degree of communication (collusion) and repetition (which lead to experience) seemed to strongly affect the outcome.

I believe that experimental economics holds potential for studying the possible ramifications of making commodity promotion programs voluntary instead of mandatory. Nelson has done an excellent job of presenting an overview of this technique. The next step is to design and implement an experiment similar to the ones described by Nelson pertaining to commodity promotion. I could envision designing an experiment using the estimated rates of return from commodity promotion as the payoff, and a group of farmers who actually pay for the current program as subjects to determine the degree of free-ridership if the program were voluntary. One could then vary the institutional and environmental parameters of the experiment to determine how sensitive the results are to these parameters. Such an experiment would be a nice contribution in furthering knowledge on the economics of commodity promotion.