Research On Effectiveness Of Agricultural Commodity Promotion

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METHODOLOGY RESEARCH FRONTIERS TO BE PURSUED

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This conference has been successful in many respects, not the least of which has been a vivid demonstration of the many dimensions of the problem generically referred to as "the evaluation of commodity promotion activities." One contributing factor to the complexity is the fact that the research objectives — the questions that need to be answered — vary according to the mission of the agency or group initiating the inquiry.

If we are to determine research areas to be pursued and, perhaps, to assign priorities to these identified problems, we first need to outline a systematic procedure for doing it. I suggest the following:

1. Determine and clearly state the research objectives with clear identification of how the objectives overlap and differ between different groups.
2. Determine the research and analytical requirements necessary for accomplishing the objectives.
3. Review the existing research base to determine what has been done.
4. Identify the "missing" links which then become the research priorities.

While this procedure is well recognized by most of us, I think repeating it helps focus our thoughts regarding future research directions.

The panel discussions which initiated this symposium illustrate the diversity of research objectives. Government agencies responsible for recommending the approval of market order referendums that enable advertising programs and for overseeing existing programs are primarily interested in the following:

1. The impact on commodity demand levels with implications for the appropriate assessment level.

*Comments represent views of the author and are not intended to portray official USDA position.

2. The interactive impact on the demand for and prices of other commodities.
3. A measurement of the impact transmission from consumer or final product demand level back to producers or other program funding agents.
4. The impact on own-price and income elasticities and on cross-price elasticities of demand.
5. The impact on farm commodity supply response.

Commodity organizations have a different, but overlapping, set of priorities. They are interested in the following:

1. Determination of the "best" or "optimal" level of advertising expenditures.
2. Guidelines for determining how funds should be allocated between advertising and other activities.
3. Guidelines for determining how advertising budgets should be allocated across time, media, and product forms.
4. Information on program impacts that can be communicated to producers who fund the expenditures and to government agencies that often oversee and/or authorize check-off funding to support the advertising programs.

State or regional agencies often have as an objective the promotion of a variety of commodities produced within the region or state. Within the promotion program, the focus of differentiation is often geographic identification as opposed to particular commodity characteristics. Thus we have Washington State apples, Florida tomatoes, etc. These programs come closer to "brand" advertising programs than do generic commodity programs because there is an attempt to differentiate a commodity produced in a specific location from the same commodity produced in another location. Because one would expect close substitution between the same raw commodities produced in different locations, the consumer and producer welfare implications associated with advertising to create geographic differentiation become quite important.

Given this brief overview of different research objectives and information needs, let's look at the existing research base with respect to how it matches with the stated needs. Most empirical research relating to the evaluation of commodity advertising has had, in my opinion, the following characteristics:

1. A single equation focus representing an ad hoc approach to demand estimation and to the entry of the advertising expenditure variable. That is, the empirical work on advertising response has not been cast in terms of a demand systems framework nor has a lot of attention been given to the correspondence between the

demand function and the implications for how advertising enters the consumer's utility function.

2. Advertising response has usually been measured as a demand "level" shifter with little empirical effort devoted to measuring the impact on the price-quantity response coefficient.

3. The support for research in this area has largely come from commodity organizations, hence little effort has been directed toward the impact on related commodities or on the consumer welfare implications.

4. Efforts to determine how advertising impact at the consumer level is transmitted back to the producer level have often involved simplistic price transmission relationships.

I am especially pleased that several of the papers prepared for this symposium addressed issues that have been neglected in much of the previous applied work. The papers by Green, Pope, and Ward all recognized the need to conceptualize the way advertising information enters the consumer's utility function for purposes of specifying a consistent demand equation. These models seem to have near term practical application possibilities. The attractive features include the following:

1. A demand systems framework that permits the estimation of a consistent set of cross effects between commodity groups.

2. A dynamic formulation to permit the estimation of build-up and decay effects of advertising.

3. The empirical estimation of advertising impact on price and income elasticities of demand.

Economists have long argued that, because the demand for total food is inelastic, commodity advertising will simply result in the substitution of one food for another and that little or no consumer welfare results from the activity. Models based on demand systems theory provide a way to empirically test this assumption. While firmly believing that this is the way empirical advertising research should go, there are associated problems. These include data requirements and degree of aggregation across commodities.

Data needs are problematic to much of the applied work done in advertising response. Because another speaker will address this topic, I will just say that the demand systems framework requires that advertising expenditures for all food groups be included in the estimation. Also, branded, as well as commodity or generic, expenditures should be included. We need some mechanism for collecting and maintaining this type of information.

Commodity aggregation is critical to advertising research. Advertising will tend to affect the product being advertised and its close substitutes. Therefore, consumer and producer welfare implications cannot be evaluated properly unless the demand system contains food groups that are sufficiently disaggregated to isolate the cross-commodity effects. Disaggregation, however, greatly increases the numbers of parameters to be estimated within the demand systems framework. Thus, a balance will have to be reached between the need to capture interactive advertising impacts and the practical problems of having sufficient degrees of freedom to minimize multicollinearity problems.

In light of the reviews of previous research presented earlier by Forker and Lee and considering the reports of current research efforts, we can identify several areas in which additional conceptual and empirical work is needed.

Conceptually there seems to be a current focus on how advertising information enters the consumer utility function and deriving from that a consistent specification for the demand equations. This work is necessary and should be continued. The next step, it seems to me, is to conceptualize the model framework for linking consumer response to advertising expenditures back to the producer level, or at least back to the level at which the funding for commodity programs occurs. The hypothesis behind this research is that producer benefits from commodity advertising depend not only on how consumers change their purchasing behavior, but on how the marketing system transmits this change in behavior back to producers. Market structure and product characteristics may be quite important variables. Ideally one would like to be able to predict, prior to the implementation of an actual advertising program, the likelihood of positive payoff to producers based on the commodity-final product characteristics and on the existing structure of the relevant marketing firms.

Another area of inquiry relates to firm behavior under different types of market organization with respect to advertising/promotion and production control. If highly concentrated and vertically integrated industries are likely to gravitate toward product differentiation and brand advertising, what is the role of commodity advertising in those industries?

Finally, I would like to suggest that research effort be devoted to some of the broader producer-consumer welfare questions. One that is especially intriguing to me deals with the implications of creating a more price-inelastic demand via advertising. An often stated and/or implied objective of advertising is to sufficiently differentiate a product in consumers' minds to make their purchases less sensitive to price changes. For commodity advertising where supply control does not exist, it is not clear whether the creation of a more price inelastic demand is beneficial to producers or consumers or both. The obvious implication of a more inelastic demand is that price variability will be increased in response to supply fluctuations caused by natural and other factors. Does commodity advertising have the potential for creating more price instability at the consumer and producer levels and, if so, what does that mean for producer-consumer welfare? While some research base exists to build on, it needs to be adapted to the advertising issue.