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New Economic Approaches to Consumer Welfare and Nutrition
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Discussant's Comments on Papers on:
INFORMATION, EDUCATION, AND
HEALTH CONSEQUENCES OF LABELS

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It is a pleasure to have the opportunity to comment on a set of papers that so directly addresses the effect of food labeling on consumer welfare. These papers take up the important task of ex post evaluation of labeling programs and also highlight approaches to more in-depth ex ante analysis. As Kim et al. point out in their paper, ex post analysis of labeling programs is infrequent, at best. These papers deal with mandatory and voluntary labeling programs for nutritional and ecological attributes.

From a consumer welfare perspective, our interest is ultimately in a benefit/cost evaluation of labeling programs. For mandatory labeling programs, this evaluation is important for judging the desirability of the regulation. For voluntary labeling programs, the need for evaluation may be less pressing in the sense that buyers and sellers can make independent judgements about the usefulness of the label based on their market experience. However, even with voluntary programs, the government is frequently asked to step in and set some rules (e.g., as is currently the case with organically-produced foods), again necessitating the evaluation of the consumer welfare effects of doing so. As these papers indicate, there are many layers between specific pieces of the analysis and an overall, global benefit/cost evaluation of a particular labeling program

The paper by Kim et al. takes a very direct and well-constructed approach toward determining how much a consumer's use of nutritional labeling, where the labeling structure is that set up under the Nutrition Labeling and Education Act (NLEA) of 1990, affects his or her diet. Dietary quality is measured by the USDA's Healthy Eating Index (HEI). This analysis is valuable information because the approach tries to isolate a label use effect from all the other variables that influence a consumer's HEI *and* his or her decision to use food labels. The data are for 1994-96, reflecting an almost entirely post-NLEA implementation period. The results suggest that if label users stopped using labels, their HEI would drop by 9-14 points, while if

label non-users started using labels, their HEI would increase from 1.5-3.5 points.

The results show that label use affects the HEI in the expected direction: label use improves dietary quality. These results are an important input to evaluating the consumer welfare impacts of the NLEA labeling scheme. They also show the real research benefits from having data available that links individual consumers' HEI, demographic characteristics, and dietary knowledge and attitudes. Many further questions come to mind that I hope these and other authors will address in their future work. First, what explains the apparently highly asymmetric results between the effects of label users not using labels and of non-users using labels? Also, a high percentage (usually at least 75%) of consumers claimed to use the various types of nutrition labeling now included on food packages. Presumably there are differences within the user group as to the effectiveness of label use that will have an important influence on diet. These should be explored. Second, can we use this analytical approach as an input to comparing labeling regimes (e.g., the present versus the old regime or a newly-proposed one)? Finally, to do a benefit/cost assessment we would need to know how a change, say of 5 points, in the HEI translates to a change in health status and what benefits are associated with such a change. Is the impact economically significant? How does it compare to the cost of labeling and label use?

A minor quibble with the Kim et al. paper is in regard to the use of terms for parts of the nutrition labeling scheme. For example, the authors refer to nutrient content claims, as defined by the NLEA, as "nutrient content health claims" and to what the NLEA regulations call health claims as "health benefit statements". To guard against confusion, it would be better to use the specific terms as laid out in the NLEA regulations.

The paper by Teisl and Bockstael makes a strong theoretical argument for expanding the measurement of the benefits of nutritional labeling. The authors point

out that consumer welfare may increase due to labeling not only from improvements in the healthfulness of diets but also, potentially, through an increase in the utility of the diet without a change in its healthfulness. For example, nutrition labeling may allow consumers to maximize their enjoyment of fat in foods while constraining themselves to not change the overall healthfulness of their diets, by optimizing choice between products (e.g., select the full-fat ice cream and the low-fat cottage cheese). This is an important point and one not reflected in the government's current benefit/cost framework for evaluating labeling programs.

The paper also presents a rare opportunity to measure the impact of a nutritional labeling program in an all-else-equal situation. It does so by comparing purchase behavior between a set of treatment supermarkets and a set of matched non-treatment supermarkets in the same retail chain. This allows much greater isolation of the labeling effect than is normally possible. The data is from the late 1980s and is thus in a pre-NLEA labeling environment. Teisl and Bockstael use Foster and Just's Cost of Ignorance measure to try to capture the effect of better nutrition information on consumers. Eventually they extrapolate this measure over a 20-year time frame to estimate the benefits of nutrition labeling of the type used for six product categories. The results suggest much larger benefits for nutritional labeling than were estimated in the benefit/cost analysis for the NLEA. These are important contributions of the paper.

Here, too, I was left with several questions. The paper presents a rationale for why we might see both decreases and increases in purchases of "healthy" products (or "unhealthy" products for that matter) with a labeling program and a means for measuring the welfare effects. And it shows that for the six product categories chosen the cost of ignorance varies widely. What we don't know is how significant these differences in cost of ignorance are or how to judge them relative to each other. Are

the varying cost of ignorance figures a reflection of the consumer choice process that Teisl and Bockstael describe in their paper? How sensitive are the results to the six product categories chosen? Their approach is useful and the data are unique. The paper will benefit from a closer link between the model and the analysis of the results.

Padberg's paper brings a strong policy perspective to the discussion. While we are and should be very interested in measuring the impact of product labeling in the food-at-home market, he points out that the huge away-from-home and take-home markets remain largely unlabeled. This is clearly very important and, judging from the first two papers in this session, labeling would be likely to have a significant effect on consumer welfare, either through dietary change or reallocation between different foods. For example, the uproar that has accompanied the series of reviews by the *Nutrition Action Healthletter* of movie theater popcorn, and Chinese, Italian, and steak restaurants is only one indicator of the degree to which Americans like to underestimate the dietary consequences of what and how much they are eating when they eat out.

Padberg's paper focuses on a central problem in designing informational programs and then measuring their consumer welfare impacts. The nutrition labeling approach that seems to work reasonably well for at-home food is probably not suitable for restaurant items or meals. Some kind of overall metric or index is needed on an item or meal basis. The Healthy Eating Index has accomplished this on the individual diet level but we have not had a similar development effort devoted to rating items or meals. In recent work at the University of Massachusetts, we have had experience using the Padberg et al. index to measure nutritional quality change in product categories and have found it useful. Padberg's paper underlines the importance of not only looking at evaluating what is being done on the nutrition

front but where the real holes are as well.

The final paper of this session by Lohr offers an interesting approach to evaluating the welfare effects (both consumer and producer) of adding new eco-labels to the market for particular food products. The paper takes a well-balanced look at the issues involved in voluntary labeling of ecological attributes, making use of concepts of horizontal and vertical differentiation and adapting spatial competition and product proliferation models to the case of an attribute space for food products. The paper uses case study simulations for the carrot market to explore the impact of label proliferation. It makes a real contribution to our understanding of the welfare effects of eco- and other food labeling.

Lohr's paper is enlightening in terms of the motivations of certifiers and the educational issues associated with the welfare effects of label use. The ultimate question in this voluntary labeling case is whether the market will operate efficiently, or at least muddle through in the direction of efficiency, where efficiency is measured in terms of consumer, certifier, and producer welfare maximization. In markets for voluntary labels, the most interesting question is who, and how soon, will become impatient with the muddling through and turn to the government to institute standards. The record regarding the organic labeling rule proposed by USDA reveals that the various players have had a great deal of uncertainty about the net benefits of a government standard for organic products. The situation in this market is even more complicated than the paper's model indicates because there are also the supply chain linkages between producers, certifiers, retailers, and consumers. But Lohr's model and simulations are a clear step toward better ex ante evaluation of welfare issues related to label proliferation.

The overall message of the four papers is that mandatory and voluntary labeling programs have significant consumer welfare impacts. The papers move us

toward being able to measure these impacts more effectively.