Demand Analysis of Organic and Conventional Fresh Produce Using Discrete Choice Models that Combine Multiple Data Sources

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Abstract

It is a well-known phenomenon that organic versions of food products command a “price premium” in the marketplace, and therefore some subset of consumers may prefer organic products based on a perception of superior attributes. Various studies using survey research methods report that primary reasons to buy organic products include health/nutrition, better taste, food safety, and environmental friendliness. Although these insights are useful, what has been lacking is a comprehensive quantitative model of consumer choice behavior that can support more complete demand analyses in this important area. In our work we are developing discrete choice models of consumer choice of organic fresh produce using a framework that supports combining data from multiple sources to identify and integrate potentially important effects on consumer behavior. To date, we have compiled supermarket scanner panel data from a local supermarket on a wide range of fresh produce items with both organic and conventional offerings. Based on these data, a consumer survey with a stated choice experiment has been designed and implemented using respondents for which we also have actual market purchases. The survey collects information on knowledge, perceptions, and attitudes toward organic products, as well as detailed demographic information. The stated choice experiment allows elicitation of preferences for key attributes that have been identified in the literature (e.g., “pesticide free, “no GMO’s,” “environmentally friendly”). We will

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present results for mixed-logit discrete choice models that combine scanner data with
stated choice data to capture effects related to consumer heterogeneity in perceptions and
preferences that are scaled to be consistent with actual observed demand.