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Latent Consideration Sets in Egg Demand

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Research Summary

One of the major challenges in modeling disaggregate consumer demand is that the choice set of the consumer is not known by the researcher. When a consumer is choosing among different varieties of eggs, for example, it is not clear whether the consumer considers all available alternatives or only a subset of the alternatives. Furthermore, the factors that affect choice set size and composition are not well understood. It is clear, however, that misspecification of the choice set will result in biased estimates of demand and marginal values of attributes.

One of the difficulties in modeling choice set configuration is that the number of possible choice sets can be very large when there are even modest numbers of alternatives. One approach to assess this issue is a latent consideration set model – developed by van Haefen. This model as currently specified is incorporated into a Kuhn-Tucker empirical demand system that allows for measurement of frequencies of alternatives choices and provides estimates of marginal values of attributes. Recent advances in theory and empirical methods developed by Roger van Haefen (NCSU) have made such measurement possible. In this project we will apply the latent consideration set Kuhn-Tucker model to the case of egg demand. The egg market is characterized by many alternatives (sizes of eggs, free range, omega-3, etc.). Better understanding of the factors that consumers use to construct their choice sets will help in identifying the factors that affect egg demand, improve measurement of the marginal values of attributes and help identify the types of consumers that align with certain choice set types.
Significance of Research

This research will provide insight into the choice sets that consumers use to make egg choices. Improved knowledge of choice set structure will help in developing accurate estimates of demand parameters, marginal values and other elements of egg demand. This approach will also help identify factors that lead to changes in choice set composition versus factors that lead directly to changes in product choice.

In addition to improvements in measuring the demand for eggs this project will also test and assess the latent consideration set Kuhn-Tucker model. The performance of this model will be examined relative to other forms of disaggregate choice models. This model has not been applied to consumer products to the best of our knowledge.