Title Sensory influences on consumers' willingness to pay: The apple and cherry markets

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Abstract

This dissertation consists of four studies that incorporate sensory characteristics in the context of examining consumers' willingness to pay (WTP) for apples and cherries. Individual-level data, including sensory responses to apples and cherries, were collected. Effects of sensory attributes are compared across different cultivars of apples and cherries. Two methods of eliciting consumer preferences are also compared.

The first study uses individual consumer-level tasting data to estimate a predictive model of the relationship between sensory attributes and WTP for two cultivars of apples and tests whether these attributes play a different role across cultivars. Consumer survey data and apple tasting data for both Red Delicious (a traditional cultivar) and Gala (a newer cultivar) are compared. The results suggest that firmness and sweetness both positively affect consumers' WTP, but more so for Gala than Red Delicious. Older consumers are less likely to be willing to pay premiums for both cultivars. Apple-eating frequency is positively related to the WTP for Gala but not for Red Delicious. Meanwhile, being Hispanic negatively influences the WTP for Gala apples, but it does not affect WTP for Red Delicious. The second study utilizes instrumental measurements of soluble solids and firmness levels as independent variables in the WTP model and compares the estimation results with the sensory model.

In the third study, an extended double-bounded dichotomous choice (DBDC) model, a mixed logit model, is estimated with cherry tasting data from a survey in which respondents evaluated five cultivars. Firmness and sweetness significantly influence WTP in a positive way. Age is an influential factor, as well as annual household income level under $75,000.

Lastly, two elicitation formats of contingent valuation approach, DBDC and payment card (PC), are compared over the WTP for cherries. They generate different parameter estimates, and mean WTP values of DBDC exceed those of PC. Even though declaring which format derives more realistic results is premature, the empirical results seem to somewhat favor the mixed logit DBDC.