

# **Consumers Willingness to Pay for Environmentally Produced Wines**

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## **Summary**

This paper proposes to estimate consumers' willingness to pay (WTP) for environmental wine characteristics using incentive compatible laboratory experiments with participants randomly selected from the general population. The main question is to identify the value of environmental characteristics using wines from Napa Valley in the lower middle range segment of the market.

In order to assess the respective values of these different characteristics for consumers, the experiments compare wine made from the same grape variety, "Cabernet Sauvignon", which is the grape variety of Napa Valley and parts of Sonoma Valley. Real sales at a random selling price, based on the Becker, DeGroot, Marschak (BDM 1964) mechanism and tested by Combris (1997, 2000, 2001, 2006, and 2008), is hoped to reveal consumers' WTP in three different information conditions (blind tasting, label examination, tasting and label examination). Results hopefully will show that sensory characteristics and label information influence consumers differently. It is also expected to reveal that environmental characteristics information is valuable to consumers and ultimately producers for middle range wines.

## **Introduction**

The global wine industry is growing more competitive, and marketers are seeking ways to differentiate their brands to consumers. How consumers perceive wine as a product and its characteristics is an essential factor in the decision process and to the brands success. Yet, with the choice of wines numbering in the thousands, it is still uncertain when consumers begin selecting a particular wine over another. Promoters of increased environmental awareness believe increasing information will lead to increasing environmental knowledge, changing attitudes and thus buying behaviors. Bazoche, Deola and Soler (2008) suggested that knowledge, information, and attitudes are important for changing human actions toward the environment.

Bazoche et al. (2008) found in their study of French wine consumers, that wines with an environmental signal were valued similarly as conventional wines, while Loureiro (2003) found in some cases by testing Colorado wines consumers were not willing to pay more for the environmentally friendly wine when quality was a perceived difference. On the other hand,

Brugarolas Molla-Bauza, Martinez-Carrasco Martinez, Martinez Poveda, Rico Perez (2005) found in their study of Spanish consumers that the average premium consumers expressed a willingness to pay for an organic wine was 16% above the price of a standard wine. Thus, consumers may allege to be "green", but uncertainty exists if they are truly willing to purchase goods based solely on environmental grounds, particularly if quality is an issue.

## **Research**

The experiment is based on the protocol developed by Lange et al. (2002) and adopted by Bougherara (2003). The goal is to recruit close to 100 participants for this study. The individuals selected will have to meet certain criteria including (i) being wine drinkers, (ii) prescribing wine sales, (iii) not having taken part in a marketing or consumer study in the previous three months, (vi) must be 21 years of age or older, and (v) not be allergic to sulfides.

The four selected products are four cabernet sauvignon based wines. The first one is a conventional product, the second wine is labeled by an independent certifying body (Certified California Sustainable Winegrowing (CCSW) program), the third wine is produced by a vintner with an environmental approach (not advertised), and the fourth product is a wine whose environmental approach is well advertised. The experiment will be conducted in 5 stages. Each participant will be given \$20 to participate. These are the funds that they will use should they become successful in the auction process.

Participants were recruited from the New Hampshire Seacoast region by working with two local wineries and restaurants. Potential participants were asked at each of these venues whether they would be willing to take part in a two experiments. The individuals selected had to meet certain criteria including they (1) must be 21 years of age or older: (2) must be a wine drinker (drinking wine at least once a week), (3) must be involved in their household wine purchases, (4) must not have taken part in a marketing or consumer study in the previous three months, and (5) must not be allergic to sulfides.

1. Each participant will be given instructions about how the experiment is to be conducted. The objective is to get each participant to fully understand the revelation mechanism (auction process) for it to be effective. Instructions will be nominal and contain an example with actual figures to ensure the revelation mechanism (auction process) had been properly understood. To measure any potential anchoring bias different examples will be used for different participants.
2. The session will begin by explaining the procedure verbally to everyone. A test run will be ran in order for the participants to become familiar with the process.
3. The participants will be seated in a room in such a way that they cannot communicate with each other. They had a glass of water and some bread to take away the taste of wines between tastings.
4. The participants will evaluate the wines in three informational situations:
  - First each participant will value the four wines in turn in a blind tasting. They could taste each wine but had no other information other than that provided by the actual tasting. After tasting each wine, participants wrote down their maximum bid for the wine tasted, imagining that was the wine that would be auctioned at the end of the experiment.

- In the second situation, participants will examine the labels of six wines in turn but without tasting them. Again each participant will write down their maximum bid for each of the six wines.
- In the third situation, each participant will value the initial four wines in turn. They will taste each wine examining the corresponding label at the same time. After each tasting the participants will write down their maximum bid for each wine.

It should also be noted that when explaining the experimental procedure, the participants will not be told that the wines presented in the three situations are the same wines. Each wine was codified for each situation. The participants tasted or visually assessed each wine in turn. Each participant appraised a wine in a pre-established order to control for the impact of the order of presentation of the products on the assessment. So participants did not taste the same wine as their neighbours at any one time. After each tasting and each valuation the wine (or label) was taken away from the participants and their valuation recorded. In this way participants could not revise their valuations with hindsight after experiencing the other wines or situations.

5. The next stage will be to draw lots for a wine and its sale price. The participants will be unaware of the limits of the range of sale prices, so as to avoid anchoring effects, but know that the distribution reflected that of the price of wines on the market. Each participant therefore will have a possibility of buying one bottle at most. Each participant who will offer a price higher than the selling price for selected wine buys a bottle of wine at the selling price. The instructions given to the participants specified they could check the contents of the ballot box at the end of the experiment.

To capture demographic information, each participant will provide their gender, age, amount they frequently pay for a bottle of wine, and household income.

### **Expected Conclusion**

Based on real sales in three different information conditions, this study is expected to provide some results on consumers' willingness to pay for middle range environmentally friendly wine, according to their sensory and label characteristics.

Results are expected to show that sensory characteristics and label information influence differently among U.S. consumers based upon gender. Comparisons of individual valuations should reveal that the small differences observed in mean WTP for each wine and information condition will not result from consumers' lack of discrimination.

Finally, the three main contributions relative to the existing literature are expected to be (i) to isolate the environmental characteristic from the health characteristic, (ii) to evaluate the impact of a communication policy in this context, and (iii) to appraise the valuation of various labeling strategies.

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